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The Prevention of Animal Diseases*

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When your Secretary asked me to present a paper to this Association I considered it an opportunity to discuss with my colleagues in Lancashire and Cheshire a subject which has interested me very greatly and occupied a good deal of my time and thought for some years.

For the past ten years it has been my privilege to occupy a position which has been described as that of a veterinary officer of animal health. About half of that time has been spent as a member of the staff of this University, with the counties of Lancashire and Cheshire as my province; the other half as a member of the staff of Harper Adams Agricultural College, with the counties of Shropshire, Staffordshire and Warwickshire as my area.

My work has taken me into every part of the five counties in which I have served, and my experience amongst agriculturists in these counties has led me to believe that the most valuable contribution the veterinary profession could make to mankind to-day would not be any startling discovery of a cure for any particular disease, but a demonstration of the way in which diseases of animals may be prevented.

I have formed the opinion that agriculturists have nothing to be proud of with regard to the state of health of the majority of dairy herds and poultry flocks in this country; in fact, I consider the majority of these herds and flocks are a disgrace from a health point of view, and it amazes me that the talents and knowledge of the members of the veterinary profession have been so little utilised to improve this very unsatisfactory state of affairs. I wonder why it is that the veterinary profession has not been called upon to take its rightful place in agriculture. Preventive veterinary medicine is so important to the stock owners of this country that it could have the effect of converting a shaky subsidised agriculture into a really prosperous and robust industry, able to look after itself and employ adequate labour for its needs. If diseases of animals were properly controlled the effect upon the public health would be a reduction in the number of cases of disease communicable from animals to man, which is surely very desirable.

I will attempt to compose a mental picture of a type of dairy herd which must be only too familiar to you all. The herd is composed of cows, thin animals of various ages; a few calves may be reared but the local market is the main source of additions and replacements to the herd, to keep up the milk contract.

If the herd is a large one, it is very likely that there will be seen one or possibly two animals, with decomposing foetal membranes hanging from their wombs, with half a brick or a weight tied to the putrefying mass. An examination of the udders will reveal several blind quarters and various indurations showing that mastitis is taking its share of the profits. There will possibly be seen a thin animal with its hind quarters plastered with its faeces and a pool of liquid dung behind it—the typical Johne's disease specimen.

The tuberculin test applied to such a herd would reveal, in all probability, 60 to 70 per cent. reactors. The agglutination test for contagious abortion would probably show over half the herd to be infected with this disease. The occurrence of milk fever and delayed lactation tetany indicate that deficiency diseases are present and that many of the animals are in a pathological state.

This is no exaggerated statement of the incidence of disease in many herds to-day. I have personal knowledge of farms where the entire herd has been replaced every two years on account of disease and where the depreciation from this cause has been over fourpence per gallon of milk produced.

I have tested herds where practically 100 per cent. of the milking cows have reacted to tuberculin and where the agglutination test has shown the position to be but little better with regard to contagious abortion.

The prevention and control of disease in herds of this kind seems at first sight a hopeless proposition, but I have been able to show that it was possible to eradicate these diseases in less than two years from a herd where the

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incidence of tuberculosis in the milking stock was 65 per cent. and where one-third of the herd was infected with contagious abortion.

In this herd the tuberculin tests were carried out every three months and the tests for contagious abortion every six weeks. All the pigs were tested with both avian and mammalian tuberculin and at the first test 50 per cent. were found to be infected with tuberculosis; after three tests no reactors were found and the test was then applied to the pigs at six-monthly intervals only. The fowls were kept by themselves in an enclosure to which cattle and pigs were not allowed access.

At first the owners replaced their reactors by purchasing animals from dealers, subject to their passing the tuberculin test; this practice soon had to be given up because it was found that although they would pass a test at the time of purchase, they nearly always failed at the subsequent test—the explanation being, no doubt, that they had come from heavily infected farms and had been in contact with *tuberculous animals*. When the practice of purchasing stock from established tubercle-free herds was adopted the newly-purchased animals continued to pass the subsequent tests.

The reacting animals were sent to another farm and the heifer calves born of these animals were removed soon after birth to the disease-free farm.

It is an interesting fact that although the reacting animals looked a very healthy herd and there would, under ordinary circumstances, have been no doubts about giving it a certificate of accreditation, the biological test carried out upon a mixed milk sample showed tubercle bacilli to be present in the milk.

I have recently been conducting a survey of the incidence of tuberculosis in cattle in various areas and the results in rearing areas have shown the percentage to be low in most cases. It is common to find only 5 or 10 per cent. of the animals to react and in one case no reactors at all were found at the initial test. Most of the owners of these herds are not registered producers of milk and are, therefore, not eligible to come under the attested herds scheme, but to my mind, it would be sound economics and an excellent disease-preventive measure to compensate the owners for the destruction of their reactors and inaugurate tubercle-free areas, where stock could be reared to supply tuberculin tested herds in other areas with replacement and additional cattle.

If progress is to be made with regard to the control of tuberculosis in cattle, it seems to me essential that accredited areas should be formed and that far greater use should be made of the tuberculin test, which should be applied *in its simplest manner*.

In my experience the single intradermal test injected in the skin of the caudal fold is to be preferred to the double injection in the skin of the neck. Not only is there a great saving in time when the caudal fold single test is used, due to only two visits to the farm being necessary instead of three, but there is also much time saved in the preparation of the site, and in the control of the animal, which generally does not require manual holding by the nose or the use of barnacles. It appears to me, also, that there is a greater chance of arriving at an accurate result if the single injection is made, because the possibility of a non-specific reaction arising from the introduction of a liquid into an already inflamed area does not arise in this method of applying the test.

Wherever milk selling is practised, a very much higher incidence of tuberculosis, and for that matter, of other diseases, is also found.

The results of many herd tests have forced me to the conclusion that cow sheds and animal houses generally play one of the most important parts in the spread of disease. Most of the buildings which house cattle are totally unsuited for this purpose. Many are badly ventilated and have inadequate lighting. Numbers of newly-erected byres leave a great deal to be desired in this respect.

You may be interested in the results of initial tuberculin tests which I have carried out upon a number of contiguous farms in a rearing area in Shropshire:—

Farm A consisted of 77 animals, comprising a rearing herd, composed chiefly of Hereford cattle. The result of the test showed 4·9 per cent. reactors.

Farm B, also Herefords, with very poor buildings, consisting of 53 animals, revealed 9·3 per cent. reactors.

Farm C, a low lying, very wet farm, with a small herd consisting of Hereford-Shorthorn cross-bred animals, revealed no reactors to the test.

Farm D, also a Hereford-Shorthorn cross-bred herd, revealed 12 per cent. reactors, one of which was a calf under three months, the only purchased animal obtained recently from the local market. In this herd all the cows passed; the infection appeared to have been introduced through the purchase of calves.

Farm E, a small herd consisting of Hereford-Shorthorn cross-bred animals, showed 19 per cent. reactors, in spite of the fact that the buildings in which the animals were housed were extremely bad.

Farm F, an Ayrshire herd, where milk selling was practised, revealed 55 per cent. reactors.

Farm G, a Shorthorn herd and a milk-selling farm, showed 42·5 per cent. reactors. It was interesting to observe that practically all the animals in the shippons failed to pass the test, and out of a batch of 36 heifers, nine failed,

six of which had spent some months within the shippons.

Farm H. This was a herd consisting of Jersey cows and Lincoln reds, and revealed 65 per cent. reactors, 18 out of 21 cows, and the two bulls in the buildings failed to pass, whereas the young animals, which were at pasture, all passed.

In the prevention of tuberculosis in cattle and the formation of tubercle-free herds advantage should be taken of the fact that the percentage of reactors in cattle up to three years of age, even in herds with a large number of reactors, is rarely more than 10. I have often found that although the number of reactors in the milking herd may be as high as 80 or 90 per cent., the young animals, which have not been in the shippons, show a very low percentage of reactors.

Contagious abortion in cattle has become of increasing importance since it became the common practice of owners of dairy cattle to rely upon local markets for the purchase of their replacement and additional cattle. It is largely the culls from other farms which are offered for sale in these markets, the purchaser frequently buying diseased animals, with the result that contagious abortion is very prevalent. On account of the far greater interchange of cattle to-day than was the case years ago, herds are infected with a variety of strains of this disease, and the animals do not develop the degree of immunity which is obtained by animals in a self-contained herd. It is my opinion that the formation of such herds would be the best means of reducing the amount of contagious abortion which exists in dairy herds.

I think that every effort should be made to reduce the cost and to simplify the agglutination test for contagious abortion in cattle, so that very many more dairy farmers would be encouraged to eliminate abortion from their herds by segregation.

Although it is possible to control streptococcal mastitis by cultural examinations and infusion of various drugs, it is my opinion that usually insufficient attention is paid to the construction of flooring and the destruction of flies in cowsheds with a view to the prevention of mastitis. I think the constant washing of cowsheds together with the common use of concrete, tend to lower the resistance of the highly functioning udder, and allow of the development of organisms which give rise to mastitis.

The conditions under which the majority of cattle are kept during the winter months allow of very little reserve in the defence forces against disease. Most high-producing milk animals are suffering from deficiency diseases and a-vitaminosis towards the end of the winter. This is evident from the fact that their milk at this time of year is frequently entirely devoid of vitamins A and D. The animals have been kept in badly lighted and inadequately ventilated byres. They have produced a calf each year since maturity, have been selected from high milk-producing strains of animals, and have had insufficient fresh green food for several months. There can be small wonder that such diseases as white scour in calves are prevalent at this time of year, and that in the cow, tuberculosis is a progressive disease, and Johne's disease—which, in my opinion, is very greatly influenced by the conditions of herd management—is prevalent.

I believe it possible for a tremendous reduction in animal diseases to be made through attention to the feeding, hygiene and general herd management, together with the application of the methods of control which are known to us as a profession.

I have said nothing about the prevention and control of diseases of poultry and on this subject I am really afraid to let myself go. Many branches of science have played an important part in the development of the poultry industry with the unfortunate exception of veterinary science. The result has been calamitous for the industry and although millions of pounds are lost annually because the very elements of preventive medicine in connection with the methods of breeding, feeding and management of poultry have been neglected, still the veterinary worker is excluded from his proper place in regard to development of this important industry.

Most diseases of poultry are preventable, but it is unlikely that the high disease incidence will be reduced until our profession is encouraged to take its rightful place in the education of poultry owners upon the maintenance of health and is aided to control poultry diseases through the provision of public funds for this purpose.

In recent years a group of poultry diseases of a neoplastic nature have arisen which, in my opinion, should be studied jointly by veterinarians with a special knowledge of poultry disease conditions working together with medical men and members of other sciences in our universities and at cancer research centres.

It is common for fowls of four or five months of age to develop tumours and disorders of the blood-forming organs—such as the leukaemias, lymphomatosis and allied conditions—which in previous years were not present in anything like the present numbers.

There is a great opportunity in poultry work to study the relationship between environmental influences and the incidence and epidemiology of disease conditions. It is not unreasonable to suppose, if the opportunity were given for real team work upon research into this subject

to be carried out, that, on account of the short life of the fowl and the frequency with which these conditions appear, the solution of certain hereditary and neoplastic diseases might easily be found and have a most important bearing upon similar conditions in man. In my view no medical school or research institute can be complete without veterinary workers with a knowledge of animal diseases working with them upon the solution of disease problems which are common to both sciences.

The poultry industry has failed to make sufficient use of the existing knowledge which the veterinary worker possesses with regard to the control of many of the common poultry ailments. For example, far greater use might be made of the value of vaccination against fowl pox; the more general application of the tuberculin test upon commercial flocks and upon birds at laying trials would do much to reduce losses from this cause. The use of the agglutination test for the detection of carriers of both pullorum disease (B.W.D.) and fowl typhoid should be more widely applied and the control of these diseases tightened up. At present there are far too many unqualified people attempting to control diseases of poultry all over the country. Human health is rightly under the control of the medical profession and it seems only reasonable that animal, including poultry, health should be under the control of the veterinary profession, but I am afraid this is far from the case at the present time. I believe there is a real need for the establishment of Chairs and Readerships upon animal and poultry health and preventive medicine within universities where all these important problems might be made the subject of special study and where higher education could be offered.

It is to be hoped that before long greater encouragement may be given to our small profession which, under most adverse conditions, with very meagre financial support and with no publicity has shown that it is worthy of one of the foremost places amongst those sciences which go to build up both agriculture and medicine.

There is no doubt whatever that, given the opportunity, we have a most valuable contribution to make in connection with the prevention and control of disease in both animals and man.

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Discussion

Professor J. F. Craig said that he felt under a distinct disability in opening the discussion because unfortunately he had only been able to listen to the latter portion of Mr. Downham's address and had not got a definite grasp of the general trend of the speaker's views. The subject of the address was a very wide one and it would not be proper to extend its scope beyond the limits of the paper.

The prevention of animal diseases was the chief aim and object of veterinary research and was finding a greater place in the work of the veterinary practitioner. He did not think, however, that research would remove the incidence of accidents and ordinary disorders which required curative measures and formed a great part of the work of the veterinary surgeon in practice. It was, of course, possible at some far distant date that, like the Chinese physician, the veterinary practitioner might be paid for his services only when his patients were in good health and so be stimulated to ensure their freedom as far as possible from illness and accident. But that time was not yet.

He took it that the title of the paper referred to both contagious and non-contagious diseases and that in that sense account had to be taken of the diet, management and surroundings, as well as the measures required to ward off infection.

One of the important reasons for the prevalence of certain contagious diseases was the *traffic in stock*. In that way disease had been broadcast throughout the flocks and herds of the country. Infected animals were liable to be transferred from one farm to another. It was an essential feature of prevention to avoid the introduction of fresh animals which were carriers of infection, and the only sound plan consisted in making a herd or flock as far as possible self-contained. Unfortunately, in many areas the system of animal husbandry did not permit of this method of herd management and it would be difficult to change the system.

Some improvement would be made under present conditions in flying herds if it were possible to fill vacancies from herds which were free from contagious disease, and the freedom of herds or areas from contagious disease was only likely to be effected where the value of the animals was appreciably enhanced. The dangers of the introduction of contagious abortion and tuberculosis might also be diminished by the purchase of young cattle only. But that could only apply in certain herds and would not meet the requirements of stock owners who had milk contracts to fulfil. One knew that the incidence of bovine tuberculosis was comparatively low in young animals and that contagious abortion was a disease of sexual maturity.

Although it was not possible to discuss control measures, it might be mentioned generally that it was the attention to detail which made all the difference between success and failure in the eradication and prevention of contagious disease.

Mr. Downham had given an account of varying percentages of bovine tuberculosis in different herds but he (the speaker) had not grasped what inferences were drawn from these

observations. There was no doubt that the varying incidence was related to age, management, surroundings and other conditions.

With regard to diseases which were thought to be deficiency diseases, a great advance had been made in our knowledge of the causal factors in the food, their relation to mineral content and vitamins. Professor Craig thought the term "well balanced" as applied to a diet was often used in a very ill-defined way so that one did not know what it comprised. It might be that the defects in food acted in some cases in an indirect way in the causation of disease. One had only to refer in that connection to gal lamziekte in cattle of South Africa, which was shown to be a form of botulism and the infection resulted from the eating of rotting bones, the animals being affected with aphosphorosis.

Much work was being carried out in some diseases in regard to the chemical analysis of the blood, but in some cases it was probable that the defects in the mineral content there were connected with disturbed metabolism rather than with some defects in the diet or forage.

The poultry disease problems were immense and were related to the modern methods of mass production and overcrowding. It would not be possible at that time to consider them or their prevention. It might, however, be said that the solution of the causation of poultry neoplasms was wrapped up with the investigation of cancer problems. Some of them, like Roux sarcoma, had been shown to be due to ultravisible viruses, but the most interesting development in cancer research had been the discovery of the compounds in tar liable to set up the formation of tumours and their relation to cholesterin, bile acids and the part which oestrin might play in some tumour formations.

Professor Craig concluded by thanking the President for the privilege accorded to him of taking part in the discussion.

Mr. J. C. Baird asked for some further explanation of one or two points raised by Mr. Downham. He said that when Mr. Downham spoke of mastitis he mentioned that the constant washing of the concrete floors in cowsheds would tend to give rise to this disease. Mr. Baird, however, thought that it was common belief among laymen that chill, as they called it, was the cause of mastitis. Mastitis was mainly a matter of infection and he would like Mr. Downham to explain the factor which caused him to make that statement.

The essayist had mentioned that most highly-bred cattle suffered from vitamin and deficiency disease towards the end of winter. He would like Mr. Downham to explain that in his reply.

Mr. G. Mayall said that in connection with the difference in the percentage of tuberculosis in the cattle that Mr. Downham mentioned, he would like to know not only if the lecturer could give any explanation as to the variations, but also what were the methods of watering the cattle? Was there a separate water supply for each cow or a general watering trough, for that was an important factor in the spread of disease?

Mr. J. O. Powley observed that the previous week, a doctor friend of his had placed in his hands a little leaflet which had been written by a certain doctor. This leaflet embodied the subject matter of an address entitled, "The Doctor in the Farm Yard," which this medical man had given to a Horse Breeding Society in Derbyshire. He made some most remarkable statements. He had a cure for navel-ill, sterility, foot-and-mouth disease, etc., the "cure-all" being iodine. For sterility a satchel containing iodine was tied round the animal's neck. This doctor placed the leaflet in Mr. Powley's hands with all seriousness and asked him what he thought about it. Mr. Powley was thankful that the veterinary surgeon had got past the Victorian stage when it was thought that by tying a bag of camphor round a person's neck smallpox was prevented. He just made that statement to show how little some medical men knew and how little they appreciated the veterinary practitioner.

One little point to which he would like to draw attention was whether anyone had had experience of Johne's disease in sheep? He asked that question because he felt that Johne's disease in sheep was much more prevalent than one was apt to believe. He knew one farm in Yorkshire where the disease was prevalent in cattle and where considerable losses occurred in the sheep flocks.

Mr. A. L. Mullen thanked Mr. Downham for having stepped so readily into a breach created by the inability of another lecturer to address the meeting. He said that nobody could take exception to the picture Mr. Downham had drawn with regard to a great number of dairy herds in this country. Neither did he think that exception could be taken to his remarks on bovine tuberculosis. Whilst the public health significance of tuberculosis was paramount, its economic importance from the farmers' point of view did not compare with the losses sustained through abortion and mastitis.

He was sorry that the lecturer had dismissed the subject of mastitis so easily. He was afraid that Mr. Downham would get veterinary public health officers into trouble with the farming community if his statements about washing cowsheds and the use of concrete in flooring were to be taken seriously. One advised concrete in reconstructing cowsheds, in granting accredited licences, and whilst the perfect flooring had not yet been evolved, he (the speaker) was quite satisfied that the concrete floor, properly constructed and designed, served its purpose very well.

He did not wish to criticise Mr. Downham's paper unduly, but there was one point in particular to which he would like to refer. In the control of streptococcic mastitis by means of cultural examination and the infusion of various drugs he presumed that Mr. Downham meant the detection of the infected animal by bacteriological examination of milk samples followed by the intra-mammary infusion of various antiseptic preparations, in the case of the infected individuals. As a means of control he did not believe that control by this method would achieve much success even in the hands of a squad of able veterinarians, or if it did it would take a very long time. Speaking from his experience as a veterinary officer in one of the richest dairying districts in the country he could say that streptococcic mastitis was causing enormous losses to the dairy farmer. He would go so far as to say that it was possible for an intelligent owner to eradicate or at any rate to

control successfully this form of mastitis by an application of the very basic principle of preventive medicine and that was the segregation of the diseased from the sound especially during the course of routine milking.

Mr. J. Holroyd thought that Mr. Downham had given a very good address on the ideals and ideas which one should try to carry out in the prevention of disease. Those ideas might be all right from Mr. Downham's and Professor Craig's point of view but he was afraid they were not practicable from that of the farmer. One quite realised that in all contagious diseases the chief thing was to test the animals and find the reactors and then to isolate them as early as possible, but that was an idealistic conception and he was quite prepared to say that, in Lancashire at least, not one in ten of the farmers could carry these requirements into effect. He thought that the scientists should try and find some method of controlling these diseases, which could more easily be carried out by the farmers themselves.

Mr. Downham had mentioned the percentage incidence of tuberculosis in various districts. He thought that one could recognise that hill farms, with low cattle population, were certainly much freer than farms in districts with a high cattle population. He was not at all surprised at the figures Mr. Downham had given as to the reactors of the various herds. The highest percentage the lecturer had given, however, was 65, whereas he had tested one herd in which there were 95 per cent. of reactors and he thought that that was nearer the mark than the lower figures given by Mr. Downham.

With regard to contagious abortion, he would admit it was the newly-purchased animal that was the chief cause of the high incidence of that disease. But most farmers in his district must purchase new animals and then it all reverted to this—what could the scientist offer to the farmer who had to purchase new animals? One quite recognised that theoretically the agglutination test was a scientific method of controlling contagious abortion but quite as good results could be obtained for any individual farmer by the use of a live vaccine.

As regards mastitis, he was quite prepared to admit that the incidence of mastitis was rapidly increasing, but it was difficult to ascertain the cause. Mr. Downham had suggested that washing of the concrete floors (and, he presumed, he meant leaving them damp) had some effect in the causation of mastitis and he thought he was prepared to agree with him, but only in so far as it was but one of the things that lowered the resistance of the animal. There were many other things that lowered such resistance besides damp floors. He put down forced feeding as an important contributory cause.

As regards poultry diseases, while he was not an expert, he might say that the chief trouble which he had found was that the only thing the scientist could tell one about poultry disease was that if one had the disease, one must kill everything off. This might be the scientific view but it was not much use to the poultry dealer. He wanted not so much to kill the birds off as to cure them. Mr. Holroyd thought it high time that the Ministry of Agriculture extended their researches into poultry disease. There had been during the last month, three Acts and Orders issued by the Ministry dealing with poultry disease prevention, etc., but he thought the Ministry should go further than just dealing with fowl pest. Fowl pest, in his district at any rate, was not very prevalent. If they could do something with coccidiosis or avian tuberculosis it would be more useful. But again, there would have to be Orders that could be carried into effect—not like the Epizootic Abortion Order that was now in force.

Mr. A. B. Mattinson suggested that a comparison of the standards of health as between animals and man would be found favourable to the former. Various Public Health Acts had been in existence for almost a century yet the high percentage of rejections of recruits for the Army and the appalling cost of National Health Insurance and other allied services, showed that the general state of human health was very far from being satisfactory.

He agreed that tuberculosis *could* be eradicated from a herd as Mr. Downham had shown, but he still regarded it as commercially impracticable for dairy farms in general. What really mattered was, what happened to the affected animals eradicated from the herd? The Milk Reorganisation Commission had unduly stressed the necessity of allowing the free disposal of such animals. Possibly, on the interested advice given to them, they had no alternative, but it would have been better had they left the point alone rather than stress the necessity of such malpractice. What was wanted was healthy tubercle-free herds as a whole, not merely a few such herds as curiosities in odd corners of the country.

A matter which Mr. Downham had failed to emphasise sufficiently was the ubiquity of the disease and the inadequate efforts being made to make any headway in its control. Mr. Downham had said that tuberculosis was related to milk production, but he did not think that the speaker had given any concrete evidence in support of that statement. Surely the cause was the omnipresence of the disease; hardly any bovine was free as it got older, and had so been longer exposed to the risks of infection. Undoubtedly the strain on the system of lactation and parturition must be considered, but the essayist might have emphasised the truism that cattle never became tuberculous unless they were exposed to infection. The first step towards reducing the incidence of this disease was to get rid of the thousands of clinical cases. Eradication by tuberculin testing might be very desirable in 1946 or 2006, to clear off any surviving cases but he favoured starting at the beginning by reducing the clinical incidence to a minimum.

Mr. Downham had also mentioned the high incidence of contagious abortion. Most farmers failed to swallow the hard fact that when one or two cows aborted, they had got the infection on the premises and, although unwilling to believe the unpleasant truth, they had sufficient realism to dispose of such cows as newly calved, so spreading fresh strains of infection amongst their neighbours. It was extremely rare to find a cow in a herd which had had six calves, yet that was well within the limit of a cow's commercial productive capacity.

He agreed that there were many causes for the high incidence of mastitis, which was now the greatest curse of the milk-producer, and the most serious cause of economic loss. Perhaps his view was old-fashioned, but he rather thought that the washing of floors, especially concrete floors, might be a contributory cause or, at least, it did not seem to lower the incidence, though cleanliness might be expected to do so. He considered that over-stocking was the greatest individual causal factor and that it would remain unchecked so long as the present system of

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"bagging-up" newly-calved cows was adopted in marketing them.

Poultry diseases were almost an insoluble problem in practice: most poultry runs must be saturated with every type of infection and the disinfection of land was impossible for the poultry farmer with his limited areas for changing over. The problem was an economic one: would it pay to erect permanent brick buildings faced with cement to be disinfectable, while the adjacent run was alive with parasitic and bacterial disease, or must all hens be kept in batteries? The ordinary wooden building was difficult to maintain in a hygienic condition but so long as eggs were imported in hundreds of millions, it was difficult to know whether the additional cost of extirpating disease and keeping poultry in perfectly hygienic surroundings would pay better than the present practice of *laissez aller*.

He had heard Mr. Downham with great interest: the subject covered a very wide field and he had appreciated the speaker's handling of it very much indeed.

Mr. H. T. Matthews, having thanked the speaker for his interesting paper, went on to say how nice it was to hear Mr. Holroyd once again after his long absence; he felt sure all the members present would welcome him back very warmly. (Applause.)

The title of Mr. Downham's paper was so wide that one could hardly anticipate how it could be dealt with in the limited time, but the speaker had perhaps wisely kept himself to cattle and poultry. Mr. Downham might have talked about horses, pigs, rabbits, etc., but he had not. Nevertheless, he (Mr. Matthews) would like to talk just for a minute or two about mice. The science of preventive medicine was still in its infancy. Topley and Wilson had been working on mice with three infectious diseases and had recently published a report on their investigations. This report was so full of mathematical symbols that it was too obscure for the untrained mind. He had gathered, however, from their summarised conclusions, that they had enunciated two or three important principles. Firstly, they said that the constant re-introduction of susceptible animals into a herd of mice was the factor that kept the infection alive. There was a parallel to many of our herds of cattle and he suggested that it was the re-introduction of susceptible as well as infected animals into the flying herd which was responsible for the high incidence. It was an impossibility to eradicate infectious diseases from those flying herds which were so common in Lancashire and Cheshire. Mr. Mattinson had emphasised that it was an economic problem. He thought that one should say very strongly next time a bonus was to be given to any of the agricultural community that it should be given not on the gallons of milk, but on animals. (Hear, hear.) It was almost true to say that the more the milk that was produced the higher was the incidence of tuberculosis and mastitis.

The next principle that Topley and Wilson had enunciated was that the use of vaccines among their herds of mice with their three diseases, reduced the incidence, but failed to eradicate it.

They particularly emphasised that their principles must not be applied generally either to human or animal conditions. Nevertheless, he thought their findings were very significant. Vaccination against tuberculosis was being advocated. We had now a very long experience of vaccination against abortion and attempts had been made to vaccinate against mastitis, either autogenously or otherwise, and the results were not very promising. Mr. Downham had, he thought, a good deal of experience and he would like him to deal with that aspect in his reply.

There were, of course, many other factors which could not be dealt with there—factors which increased the spread of disease, *e.g.*, in this year of grace the transit of animals was very much easier than 20 years ago and the opportunities for spreading disease from one end of the country to the other were much more frequent. Again, the markets where animals collected were disease-distributing places. He was quite sure that stocking-up dairy cows in the market was worthy of the profession's attention.

He was in complete disagreement with Mr. Downham's suggestion that the double intradermal test should be abolished and replaced by the single injection in the caudal fold. One was in difficulty with the test because one had seldom an opportunity of checking up one's results. Nevertheless, there were cases which reacted to the second injection and which showed no signs on the first injection, and he would certainly not accept all those as false positives.

It was pleasant to see Mr. Downham up there again and he thought he had performed his function by creating such an interesting discussion.

The Reply

Mr. Downham, in replying, said that Professor Craig had asked what was the purpose of testing in an area. He thought that some of his opening remarks would answer that question. Actually, he had been asked by many, for some time, to test cattle in his area with a view to the elimination of tuberculosis and he had been struck by the very high percentage of tuberculosis in the average dairy herd. He thought that in that connection he could just correct one statement. Mr. Holroyd, had said that he (Mr. Downham) had given 65 per cent. as being the highest percentage of reactors. Mr. Downham, however, had said practically 100 per cent. and that was actually what he had found in some cases.

He was in the unfortunate position of having farmers who, after having their herds tested, found it impossible to go on and eradicate the disease when they found they had a very high percentage of reactors. Therefore, one had to look to the lower populated cattle areas to make a start in area eradication schemes. He had selected an area which was near to him and had taken a group of farms in that area. He could say from an examination of the percentages of reactors to tuberculin in these herds how the types of farms in that area influenced the incidence of disease. He was able to show that in some herds, the animals comprising these herds were by no means all young cattle, and the reactors were very much fewer than one might have expected: in one herd he had found no reactors at all. His purpose was to get an area clear of tuberculosis which would then act as a source of supply of tubercle-free cattle for existing tuberculin-tested herds and for herds which were becoming tubercle-free. The scheme would increase the value of the stock in the area and there would be an impetus to farmers to go in for dairy animals which were free from tuberculosis.

He agreed with Professor Craig's observation that repeated exposure to infection was, in his opinion, one of the main causes of infection in older cattle. He was sure that bad shippons were a very definite danger to animals in this res-

pect. One must concentrate on improving the condition and structure of the shippons which were important factors in the control of bovine tuberculosis.

With regard to deficiency diseases, he was sure there was an enormous number of cases where the blood showed deficiency in magnesium and calcium, and avitaminosis. He formed the opinion that where one got this it was not only vitamin and mineral deficiency in the food, but there was definitely a lack of those substances in an available form. He had never come across the condition where the broad-leafed grasses were plentiful and where kale, cabbage or other *Brassicae* were used as food. Last year he met with a case in which 42 animals had died on a farm which was shown to be deficient in calcium. The feeding and management were bad and the blood magnesium of the animals was found to be abnormally low. It was quite hopeless to carry on dairy farming if one had such conditions. He thought, then, that it was the veterinary surgeon's duty to find out what was wrong and to advise upon the diet in such cases.

Concerning neoplastic diseases in poultry, his experience was that they occurred commonly in these birds and the leukaemias and lymphomatosis appeared to be of increasing importance. On account of the young age at which these diseases appeared and the facilities for following through several generations in the fowl and the possibility of studying the breeding and the environmental conditions which influenced the development of such diseases, there appeared to be a great opportunity for poultry disease workers to assist in the solution of the cause of this type of disease.

In reply to Mr. Baird, it was an accumulation of observations that had led him to form the opinion that chill had something to do with mastitis. For example, in one herd with which he had dealt for the eradication of tuberculosis, he attempted at the same time to eradicate mastitis. In the improvements necessary to the shed they had put down concrete flooring, leaving another shed unaltered. The incidence of mastitis was very much higher in the herd housed in the concrete-floored shed in spite of the fact that they were younger cattle than those in the other shed, and their udders were not fully developed.

Mr. Baird must have misunderstood him when he said "Highly bred cattle suffered from vitamin deficiency diseases." What he had meant was animals bred for high production of milk and high-producing animals. The high-producing animal and intensive farming were often uneconomic and he recollected one man having said to him, "Five years ago I kept a very large number of sheep. To-day I have exactly one-half the number and yet I am now making double the profit."

Regarding Mr. Mayall's question about water supply, Mr. Downham said that on one of the farms in a rearing area there were no reactors, even though the land was low-lying and the conditions such that one would have expected reactors. Water supply was an important factor in maintaining a tubercle-free herd.

Mr. Powley had suggested that veterinary practitioners might use a little more propaganda in the profession and with this view he fully agreed. He thought that if people, who had little or no knowledge of animal diseases, would leave the control of these diseases entirely to the veterinary profession a very much better state would exist in the poultry and cattle industries. He was afraid he had not come across Johne's disease in sheep personally, but the disease appeared to be relatively common in some districts.

He must apologise to Mr. Mullen for not saying more about mastitis. He only began to think about that paper when he was in bed with influenza and overlooked Mr. Mullen's request and, therefore, did not give as much attention to mastitis in the paper as he should have done. Mr. Mullen also mentioned the control of streptococcus mastitis. He thought that farmers in his area who had been controlling streptococcus mastitis by cultural methods and segregation got rid of mastitis of this type but not pyogenes infections and some of the acute forms of the disease. With regard to the use of drugs in this condition, he found that entozon was a suitable one in many cases. He thought that Mr. Mullen was in a very great difficulty by being in Cheshire because if there was a county which was overstocked, it was Cheshire: if there were only one-half the number of animals kept, and those the younger, there would not be so much disease among them.

Mr. Holroyd had remarked that many of the things he had mentioned were not practicable. He was afraid he disagreed with Mr. Holroyd. If one could cut down the cost of the tests used in the control of animal diseases he thought it would be a good thing.

With regard to live vaccine for contagious abortion, it was a policy of the hopeless. Mr. Holroyd had mentioned that it was impossible to have self-contained herds but he could not see why that should be so. One would have to begin with the young animal and if one could get every farmer to see the importance of the self-contained herd one would be doing a lot of good.

He agreed with Mr. Holroyd regarding forced feeding being a contributory cause of mastitis. He had had a good example of this in a herd with which he had been connected and he knew it was a most expensive business.

Concerning poultry disease, he did not think it necessary to resort to killing off all the birds as stated by Mr. Holroyd, except in certain diseases, but conditions were often so bad that it was perhaps the cheapest thing to do.

Mr. Mattinson had referred to human disease and declared that the state of human health was no better than that of animal health. Two blacks, however, did not make a white, but he thought the state of animal disease had a bearing on human disease and one would be doing a public service if one could do more preventive disease work. The question of the disposal of reactors was an important one. It was quite possible to avoid such an animal being a total loss—it could be sold at a suitable time for beef. He had even known cases where farmers were actually paying more for reactors than for ordinary market cattle because they knew they had only come out of the herd because they had reacted and the state of the ordinary market cattle was much worse than the rejected animals: he did not think that that was a good thing. There was no doubt about the freedom of young animals from disease: the incidence rose as the animals grew older. He did not agree with Mr. Mattinson that clinical cases should be eliminated first. One should begin with the young animal. He shared his opinion, however, about overstocking: it was a cruel and unwise practice. He agreed that the self-contained herds were best. The very high milk yielding animal was not always economical. With regard to bonuses for tubercle-free herds, he thought these might be extended to those in rearing areas which after

clearing of disease might be turned over to the production of dairy cattle.

Reverting to poultry diseases, he thought that the cabin type of poultry house was bound to bring disease. He was in favour of small units and if one could go about amongst agriculturists and make some of these suggestions to them, it would be helpful. He disagreed with some of the methods of feeding. Poultry were constantly having food placed in front of them, inducing them to stay indoors, soil the food, take little exercise and get insufficient fresh air.

Mr. Matthews had stated that vaccine failed to eradicate disease in mice. He thought that that was generally one's experience with larger animals: most vaccines did not eradicate disease although they did assist. On one farm that had had many cases of tuberculosis for a number of years he had reduced the number of clinical cases by the use of the B C G vaccine. Another farm that had used this vaccine showed, by the reduction in the number of open cases of tuberculosis, that it was a valuable method of controlling the disease.

Regarding the single intradermal test, possibly he had spoken without sufficient controlled evidence to back up his statements but he had used it for some time and was satisfied with the test. He had met others who had had a similar experience to his own. The essentials about the caudal fold site were that one must use a fine needle and the injection must be *intra*-dermal and not between the two folds of skin. He had a good deal of evidence to support the caudal fold single intradermal test. At one time he had been able to kill a good number of cattle after the double test and, although he thought the test a valuable one, he thought too few post-mortems had been made to confirm its superiority in value over the single test. After all, the greater the number of such post-mortems that were carried out the nearer one would get to the truth as to the value of the test. He remembered having tested cattle in one herd and 17 out of 19 and 18 out of 21 had given a reaction to the single intradermal test. He had carried out this test in the next herd and had found no reactors. He was satisfied with that test and he thought more work should be done to test the value of the single intradermal test in the caudal fold—which, if it were used, would save a good deal of money and much time and enable more animals to be tested.

"THE RITUAL OF PURGATION"

The ill-effects of constipation have been greatly exaggerated, and purgation in acute illnesses and before surgical operations is more often harmful than beneficial to the patient. Most acute illnesses are accompanied by dehydration and, as vaporisation is essential for life, the body has to employ other means to retain water. A more concentrated urine and constipation will result. Constipation is, therefore, not the cause, but the symptom of most diseases, and purgation of an already dehydrated patient can only be harmful. In the case of acute bacterial infection and in diseases where dehydration is required, purgatives should be given, but otherwise they should always be regarded as dangerous drugs and be administered with great care. The value of a mild aperient for some patients is not doubted, but probably "more people have died from purgatives than from digitalis."—L. J. Witts (*Lancet*, 1937, i. 427).

The Veterinary Record
April 17th, 1937.

The Regional Abattoir and the Livestock Industry Bill

MUCH can be said in favour of the establishment of the regional abattoir as a centre for the preparation of meat foods from the stock produced in suitable areas of the country. The modern abattoir should be designed to deal with large numbers of animals and be associated with suitable collateral factories for the manufacture of the many valuable by-products. Both economic efficiency and public health interests are best served by the organisation that should be inherent in large abattoirs and hence the regional abattoir, designed to serve areas usually larger than counties, should appeal both to trade and to public health authorities. But the construction of such abattoirs requires the best advice the country is able to provide and it is to be regretted that the scheme outlined in the Livestock Industry Bill makes provision for the establishment of slaughterhouses by local authorities or private boards of individuals. This surely is a short-sighted and unprogressive policy which is likely to lead to a repetition of many of the drawbacks associated with the schemes already in existence. The abattoir is primarily and essentially an institution for the safeguarding of the public health where presumably healthy animals are received for conversion into food for man. It would seem, therefore, that a grant of £250,000 towards experiments in the centralisation of slaughter is of little value when to build and equip one good abattoir alone will cost half a million pounds. The building, establishment and arrangement of an abattoir such as is contemplated is not to be undertaken lightly. Local authorities, even the best of them, and private individuals, are far too narrow in their outlook and of necessity too limited in the staff which they employ to be entrusted with an undertaking of this kind. It is not a task for the "Markets Committee" or Medical Officer of Health or Sanitary Inspector of a local authority even if the Commission offers advice and partly controls the venture. Central abattoirs and all large factory abattoirs in the country should without question be directly and absolutely under the control of the State.

They should, as in all other progressive countries, have an establishment of whole-time veterinary officers to attend to the multifarious duties inseparable from an abattoir undertaking. These veterinary officers should be part of a State organisation and directed by the Chief Veterinary Officer of the Ministry of Agriculture or of a Department of Animal Health.

It is surprising how many people, including some of our own profession, associate the veterinarian's duties at an abattoir purely with those of meat inspection. Meat inspection in its narrow sense—that is the *post-mortem* examination of the carcase and offal of an animal slaughtered for food—is only a part of the work of a skilled veterinarian at an abattoir. Many other problems need the veterinarian's attention. For instance, the congregation of large numbers of animals at lairages is intimately related to the duties imposed upon a local authority in the administration of the scheduled and other contagious diseases of animals. The many Acts and Orders in force for the prevention of cruelty and regulating the transport, isolation, and movement by licence of animals is part of the routine abattoir work and can only be efficiently administered by a veterinarian on the spot. The *ante-mortem* examination of animals, the provision of places for the thorough clinical examination of any animal that appears diseased, and for the killing of diseased or injured animals with a proper detention room for the thorough examination of their products, the supervision of methods of slaughter both from an economic and a humane point of view, and the supervision of meat carriers, transporters of meat and others to see that they carry out their work hygienically are important veterinary duties. Yet, in spite of these facts and that the Bill itself (Part II, Sec. 6, para. 4) speaks of evidence concerning pregnancy, ageing, castration, etc., in cattle, it makes no mention of the veterinary surgeon!

Bearing in mind the factors we have mentioned, which we submit are all essentially veterinary problems, who is to be considered the competent authority to administer an abattoir undertaking? Is it to be the Markets Superintendent or Sanitary Inspector of a local authority, or a group of individuals representing a private enterprise, or is it to be the State organisation we have suggested?

It is unfortunate but none the less true that many of the great public abattoirs in this country are controlled by men with no specialised professional training for the work they undertake. At a few places a dual method of administration is adopted incorporating a Markets or similar Department and some representation of Public Health interests.

It has long been advocated by veterinarians with extensive experience of the public health side of abattoir administration that dual control is unsound, uneconomical, and inefficient.

With so many matters requiring the expert advice of the veterinary surgeon we cannot end without urging upon the Ministers the paramount importance it is to the welfare of the scheme as a whole that at least one individual appointed to act on the Commission should be a veterinary surgeon having special training and experience in the matters pertaining to the scheme.

The Commission will be called upon to consider a mass of technical matters in respect to animals, animal health, slaughtering, meat inspection, abattoirs, and markets, and it is essential that the Commission should have immediate access to the best and latest available information on these subjects.

The incontestable soundness of our claim to representation on the Commission leads us to look forward with every confidence to such an appointment, and we have no doubt that if a careful choice is made, and there are first-class men available, he who is chosen will acquit himself with honour to the lasting benefit of Agriculture and the State.

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We publish below the text of correspondence which has passed between the Association and the Minister of Agriculture relative to the Livestock Industry Bill, the committee stage of which was concluded on Tuesday last.

(1) *From the Secretary of the N.V.M.A. to the Minister of Agriculture,* dated January 20th, 1937:—

The National Veterinary Medical Association of Great Britain and Ireland notes that under Part I, Clause 3, of the proposed Bill, which seems likely to be placed on the Statute Book at an early date, provision is made for a Livestock Advisory Committee to be constituted.

My Association would, therefore, take this opportunity of respectfully bringing to your notice the great advantage which in its opinion would accrue to this committee and to their deliberations if a member of the veterinary profession were appointed thereon.

It is felt that amongst the many matters on which veterinary advice could be given, an important one would be concerning livestock markets, especially as regards the prevention of disease. Should the appointment of such a representative be contemplated, my Association, which represents the interests of all branches of the veterinary profession, would be willing and eager to give any advice on the subject that might be desired.

I am also requested to bring to your notice the desirability, in the event of a central experimental slaughterhouse being set up, of making arrangements for the appointment of one or more veterinary surgeons, as may be required, at such slaughterhouse. It is the expressed view of my Association, that in the interests of public health, such an officer is essential for the proper examination of animals *ante-mortem* and of carcases *post-mortem*.

It is felt that the veterinary surgeon both by reason of his training in animal pathology and practical experience in dealing with animals, is undoubtedly best fitted for these duties.

My Association hopes that you will give favourable consideration to these representations when the time arrives for these matters to be decided.

I am to add that similar letters are being addressed to the Secretaries of State concerned with Agriculture in Scotland and Northern Ireland.

. . . . . .

(2) *From the Private Secretary of the Minister of Agriculture to the Secretary of the N.V.M.A.*, dated January 23rd, 1937:—

I am desired by Mr. Morrison to acknowledge receipt of your letter of January 20th with regard to the Livestock Industry Bill, and to say that the suggestion that you make will receive the Minister's consideration and a further letter will be sent to you.

. . . . . .

(3) *From the Private Secretary of the Minister of Agriculture to the Secretary of the N.V.M.A.*, dated January 26th, 1937:—

With further reference to your letter of January 20th regarding the Livestock Industry Bill, I am desired by Mr. Morrison to draw your attention to the provision of Clause 3 (2) relating to the appointment of the Livestock Advisory Committee. This sub-clause states that this committee shall include persons representing "such . . . interests concerned in the marketing of livestock or meat as appear to the Ministers to be immediately affected or likely to be immediately affected by the operation of this Act." This limitation of the interests which are to be represented on the committee will probably have to be interpreted by Ministers rather strictly, otherwise that body will become unwieldy, and Mr. Morrison considers that it would be a matter of some doubt whether the veterinary profession as such would come within the definition by reason of their interest in the prevention of disease and public health. It will be appreciated that the Bill does not affect the functions of local authorities under the Diseases of Animals Acts and the Public Health Acts.

The Minister wishes me, however, to draw your attention to the provisions by which a livestock markets order under Part IV (Clause 16 [5]) and a central slaughtering scheme under Part V (Clause 24 [1] [j]) may include provisions requiring the Livestock Commission to appoint *special* Advisory Committees to advise and assist them in the discharge of their function under the Order—Clause 16 (5)—or scheme—Clause 24 (1) (j). The constitution of these committees is left to the discretion of the Commission and it will be quite open to that body to include representatives of the veterinary profession if that course seems to them to be desirable.

(4) *From the Secretary of the N.V.M.A. to the Private Secretary of the Minister of Agriculture*, dated January 27th, 1937:—

I thank you for your letter of January 26th in reference to the communication addressed by this Association to the Minister regarding the Livestock Industry Bill.

I am grateful to you for the information you send and will lay it before the appropriate committee of the Association.

. . . . . .

We also reproduce the reply to the Association's letter on this subject, received from the Government of Northern Ireland:—

General Secretary, N.V.M.A.

Sir,—I am directed by the Minister of Agriculture to refer to your letter of the 20th instant dealing with the Livestock Industry Bill and in particular the desirability of the National Veterinary Medical Association being represented on the Livestock Advisory Committee which is to be constituted under the provisions of the Bill. You will doubtless be aware from a study of the Bill that its application to Northern Ireland is limited and that those Sections of the Bill which deal with a slaughterhouse policy, markets and the reorganisation of markets generally, are not applicable to Northern Ireland as such legislation is within the powers of the Parliament of Northern Ireland.

In connection with marketing, reorganisation, etc., this Ministry is only affected by a permissive clause which permits Northern Ireland, if it so desires, to come in and contribute to any service scheme such as an advertising scheme for beef, etc. Under such circumstances your Council will appreciate that this Ministry is not in a position to urge on the other two Departments that representation should be given to any particular section on the Advisory Committee. The Minister is sure that it will be unnecessary for him to assure the Council that he is fully conscious of the great services that are, and can be, rendered by the veterinary profession to the agricultural industry. The fact that this Ministry has brought the inspection of all pigs, both before and after slaughter, under the control of permanent veterinary officers of this Ministry, has delegated to its veterinary branch the grading functions under the Pigs Marketing Scheme, has made its veterinary officers the certifying authority under the Cattle Subsidy Act and, finally, has brought every cow in the country under State veterinary inspection as an adjunct to the Ministry's Milk Marketing Scheme will, I am sure, be sufficient assurance to the Council of the importance which the Ministry attaches to the veterinary profession and the increasing scope of its services to the agricultural industry in Northern Ireland. It follows in due course that when this Ministry undertakes the task of reorganising slaughtering and marketing conditions in connection with livestock in Northern Ireland, the veterinary officers of the Ministry will, of necessity, have to carry out additional and important functions connected therewith.

I am, Sir,
Your obedient servant,
G. S. Robertson.

Government of Northern Ireland,
Ministry of Agriculture,
Stormont,
Belfast.
January 22nd, 1937.

CLINICAL COMMUNICATIONS*

J. F. CRAIG, M.A., F.R.C.V.S.

Internal Hydrocephalus in a Horse

Subject.—Bay gelding "Diploma," purchased December, 1930, as a five-year-old.

Clinical History.—This horse has no notable medical history during his service with the Corporation, except that during last summer, he seemed unwilling to do hard work, was rested for a few days, and then put on to an easier job, and had not lost a day since.

On Thursday, January 7th, he ate his morning meal normally, did one load, and was returning empty for a second load. He stopped and fell in the street, rose in a few minutes, walked into the stable where he fell again, and lay for some ten minutes. He got up with assistance and was moved into a loose-box. I saw him about noon, very sleepy, with his head in the corner of the box. When asked to move he tended to stagger backwards. There was no temperature; pulse missing one beat in three or four and weak. I passed the stomach tube, found the stomach practically empty, and pumped in magnesium sulphate and potassium nitrate. There was a little dung in the rectum, which was emptied. He remained quiet until late evening, when he went down and lay semi-comatose all night. During the following morning, he moved his legs occasionally, not violently. I gave him calcium, and turned him over. He died quietly about mid-day.

Lesions.—The chief changes noted in the bay gelding were confined to the brain.

Other points noted were some dilatation of the right ventricle of the heart, a few ascarides in the small intestine and a few specimens of *Strongylus equinus* in the caecum, in the mucous membrane of which there were a few pin-point red punctures.

The brain presented a considerable dilatation of the lateral ventricles, the foramen of Monro, the third ventricle and its offshoot into the peduncle of the pituitary gland. The iter of Sylvius and the fourth ventricle were unchanged.

A great deal of watery fluid escaped from the brain during its removal and this had probably come from the dilated cavities after the pressure had been taken away.

To understand the production of hydrocephalus it is necessary to enquire into the normal formation of the cerebro-spinal fluid and its normal escape from the ventricles. The cerebral fluid is a watery fluid which is mainly secreted by the choroid plexuses. It is not absorbed in the ventricles. It passes through the iter of Sylvius into the fourth ventricle and escapes into the sub-arachnoid space through the foramen of Magendie on the roof of the fourth ventricle behind the cerebellum and through the laterally placed foramina of Luschka.

The accumulation of the fluid in the ventricles gives rise to coma by pressure on the brain substance.

Since the lateral and third ventricles alone appear to be involved, it is probable that there was some compression of the corpora quadrigemina. It is suggested by Dexter that this is brought about by the protrusion of occipital lobes in front of the tentorium cerebelli by increased intracranial pressure.

The interest in this case is the rapidity of the onset and course of the disease. The usual symptoms described are similar to those seen in cirrhosis of the liver in the horse.

* * * * *

Atheroma of the Endocardium in the Heart of an Aged Gelding

This specimen (exhibited) was sent to me by Mr. G. H. Locke, M.R.C.V.S.

The animal was 17 years old, and the changes noted were confined to the endocardium. The endocardium presents a considerable number of large greyish thickened patches both in the auricles and the ventricles. In sections from these thickened patches there is an appreciable increase in the amount of connective tissue under the endothelium and a good deal of this tissue has undergone necrosis, while in these areas lime salts are deposited.

This is an uncommon condition and its cause is unknown. It is attributed to some toxic agent.

Strange to remark, tumour-like bodies from the mesentery of the small animal present a similar change.

*Communicated, with *post-mortem* exhibits, to the Lancashire Division, N.V.M.A., at a meeting held in the Department of Veterinary Pathology, Liverpool University, January 27th, 1937.

Abnormal Bovine Uterus

The specimen (exhibited), which was received from Mr. Clayton, M.R.C.V.S., Birkenhead Abattoir, is the uterus of a bovine in which organ there is no body and each horn has a separate cervix and *os*.

The horns of the uterus are normal in shape but only attached to one another by a muscular band where the body is usually situated.

The two cervices are completely separated throughout and open separately side by side into the vagina. The ovaries are not left attached.

The animal from which the uterus came was stated to be an oldish cow and was heavily in milk. The size of the uterus and the appearance of the *os* for each horn suggest several former pregnancies and judging from the equality in size of the horns, one must conclude that in the last pregnancy at least, each horn was occupied by a foetus.

LONDON DAIRY SHOW

At a recent meeting of the Council of the British Dairy Farmers' Association, the proposals made by the National Dairymen's Association for a joint dairy show at Olympia were considered, but were not accepted by the Council. The 1937 Dairy Show will, therefore, be held at the Royal Agricultural Hall, Islington, on October 19th to 22nd. The Council and its committees are continuing to give careful consideration to the question of increased accommodation for the Dairy Show, and the Council has obtained an option on another building.

ABSTRACTS

[**The Effect of Carbon Tetrachloride on Sheep.** Kennan, H. C. (1936.) *Austral. Vet. J.* **12.** 4. 150-153.]

The author carried out experiments at Glen Innes, New South Wales, to test the prevalent belief that continued administration of carbon tetrachloride caused liver damage, prevented fattening and rendered the mutton tough. Four groups, each of six sheep, were regularly dosed with the drug, while a fifth undrenched group served as a control. Groups A and C received 1 c.c. carbon tetrachloride fortnightly and monthly respectively. Groups B and D received 5 c.c. fortnightly and monthly respectively. A sheep of each group was killed after five months, and no excess of fibrous tissue was found in the livers. After nine months of treatment this test was repeated with a similar result. The sheep from Group B (largest amount) was pronounced equal in quality and tenderness to the best available. Similar experiments with old sheep, fluke-free, with young infested sheep and with pregnant ewes, showed the drug to be harmless. No liver damage was detected and there was no deterioration in the quality of the meat.

W. L. S.

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[**Some Aspects of Bovine Tuberculosis.** Burrow, H. (1937.) *Vet. J.* **93.** 2. 44-48.]

The author describes the *post-mortem* findings in three cases of tuberculous endometritis. Two cows were carrying apparently normal well-nourished foetuses six to eight weeks old whilst the uteri in both instances were extensively infected with tuberculosis. In one instance the foetus showed widespread and advanced lesions of this infection. In the third instance a full-time calf was born which was heavily infected whilst the dam when slaughtered a few days after parturition was found to have tuberculous endometritis. These cases are advanced as unquestionable proof that tuberculosis can be contracted *in utero* (*i.e.*, congenital tuberculosis). In the opinion of the author even a slight tuberculous infection of the endometrium results in sterility but if the endometrium becomes infected after conception has taken place a full-time calf may be born which is tuberculous.

The need for including even the youngest calves in the tuberculin test is emphasised by the following figures. Out of 1,174 cattle on 17 farms tuberculin tested for the first time, 19 (*i.e.*, 4·2 per cent.) of all the reactors were under twelve months of age and the youngest reactor was two weeks old.

E. J. P.

[**Experiments on the Infectivity for Healthy Calves of Bovine Tubercle Bacilli Discharged in Dung upon Pasture.** Maddock, E. C. G. (1936.) *J. Hyg.* **36.** 4. 594-601.]

An area of pasture was infected in a natural manner by grazing on it calves which were receiving massive doses of bovine tubercle bacilli in their food. After three weeks grazing, these calves were removed, the dung spread evenly, and the area divided into three small plots. Healthy calves in pairs were now allowed to graze on each of the plots for three weeks and then removed to a clean paddock. After three separate negative tuberculin tests had been made, the calves were slaughtered seven, six and five months later. Careful *post-mortem* examination failed to reveal the presence of tuberculous lesions.

A second experiment was carried out on the same lines except that the source of infection was from the dung of two naturally infected cows. This time three calves were grazed on each of two plots for periods of 53 and 24 days respectively. When these calves were slaughtered after being kept for one year on clean pasture no tuberculous lesions were found. [While these experiments lend additional support to the belief that infection in tuberculosis is principally contracted by direct contact, it should be pointed out that the periods of grazing were of short duration and that these experiments were carried out only in the summer.]

S. J. E.

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[**The Pathology of Crotalaria spectabilis Roth Poisoning in Cattle.** Sanders, D. A., Shealy, A. L., and Emmel, M. W. (1936.) *J. Amer. Vet. Med. Ass.* **89.** 2. 150-156 (7 refs.)]

Chronic field cases of *Crotalaria spectabilis* poisoning occurred in a herd grazed for two weeks on unusual ground owing to flooding. Two to six months after being brought back to Crotalaria-free pasture, twelve cases of poisoning developed, only one of which survived. Symptoms and lesions similar to those seen in these field cases were seen in experimental cattle fed on *Crotalaria spectabilis* seed; icterus, subcutaneous emphysema, partial eversion of the rectum, diarrhoea and wasting developed, and *post-mortem* examinations revealed icteric connective tissues, ascites, oedema of the abomasal folds, haemorrhages in the small intestine, firm green livers with haemorrhagic erosions of the cholecystic mucous membranes, and petechiae of the mucous membrane of the bladder. Microscopic examination showed cirrhosis and pigmentation of the liver, and congestion, oedema, interstitial and vesicular emphysema of the lungs.

N. H. H.

[**Dextrose Therapy in Canine Medicine.** Stader, O. (1936.) *J. Amer. Vet. Med. Ass.* **88.** 5. 578-586.]

The author describes the many actions and uses of dextrose. He particularly notes its value in supplying energy to the tissues and its beneficial action in ketosis. The value of the drug as a liver protectant prior to and subsequent to operation is stressed, and it is shown that when injected intravenously in concentrated solution (25 per cent.), it is of service in promoting absorption in such conditions as pneumonia, ascites, etc. The writer also mentions the beneficial effect of the liquid vehicle in surgical shock and haemorrhage, and in cases of water starvation, particularly in patients with marked symptoms of diarrhoea and vomiting.

A 4 to 10 per cent. solution prepared in sterile distilled water (not saline) is recommended for general intravenous work, 200 to 300 c.c. being given to a 40 lb. dog. The apparatus is simple and consists of a flask with rubber tubing and needle, the rate of flow being regulated by means of a clamp on the tubing. The fluid is injected slowly, taking up to an hour for the quantity recommended. It is presumed that it is necessary for the surgeon or a skilled attendant to be in attendance during this long period. Other forms of dextrose administration receive passing reference.

A bibliography is appended.

J. W. H. H.

REVIEW

[**An Introduction to Comparative Biochemistry.** E. Baldwin, B.A., Ph.D. The University Press, Cambridge. 1937. 5s. net.]

This is a small book of just over 100 pages which, however, fills an important gap in accessible knowledge on biochemistry. Much has been published in the past on the general biological problems of growth and evolution from the morphological point of view but this book is a valuable attempt to show how biochemical knowledge may be utilised to corroborate and even to extend the work of the morphologist. Although this line of approach is still new, Dr. Baldwin has been able to bring sufficient facts forward even at this stage to indicate how important this field of enquiry is likely to become. The manner in which animals living in the sea have overcome the osmotic difficulties associated with migration to fresh water or to dry land makes interesting reading. The advantages of a freer life, copious

oxygen supply and plentiful food, which are associated with a terrestrial existence are offset by the loss of the abundant supply of water associated with an aquatic existence. This difficulty has been overcome by various means such as the development of an impermeable cuticle in arthropoda, or the development of morphological changes in the kidney which tend to reduce the loss of water by this channel. Three methods have been evolved of accomplishing this successfully. Some animals have allowed the glomerulus to degenerate, thereby largely reducing the loss of water into the renal tubules, other animals have retained an active glomerulus but have evolved a water-absorbing portion of the tubule below the glomerulus and yet others allow the aqueous fluid to escape as far as the renal exit but have amalgamated the end portion with the rectum forming a cloaca. Here the water-absorbing properties of the rectum are retained and much of the water present in the renal excretion is re-absorbed. The rectal glands of many insects possess this same water-absorbing power. A third method evolved by animals to maintain a sufficient water content is to metabolise large proportions of fat, for when fat is completely oxidised it produces twice as much water as does either protein or carbohydrate. Thus a hibernating animal such as the hedgehog is able to avoid desiccation during hibernation largely because it metabolises only fat. Thus, in brief, we see the interesting story of the husbandry of water throughout the animal kingdom. In a similar manner Dr. Baldwin has written the general facts of nitrogen metabolism. The toxic end-product, ammonia, is satisfactory with many aquatic animals because it is so readily removed in the abundant water, but with amphibia the continuous removal of the ammonia is more difficult and so the animal evolves a mechanism to convert the ammonia to the slightly toxic urea. Some terrestrial animals, *e.g.*, mammals, retain urea as the end-product but others, *e.g.*, birds and reptiles, convert the ammonia to uric acid. This variation is shown to be associated with embryonic development for while urea can be dealt with when early development takes place *in utero* it would accumulate to a toxic strength in eggs before these are hatched, and insoluble uric acid is evolved as the end-product, when it can be removed out of harms way.

It would be possible to continue these interesting stories but enough has been said to illustrate the broad general treatment of the subject and to whet the appetite of the reader for more. The book is readable and singularly free from misprints. It can be thoroughly recommended to our readers.

W. R. W.

REPORTS

Imperial Institute of Veterinary Research, Muktesar, India

REPORT FOR THE YEAR 1935-36

This report covers a wide range of activities and is divided into six sections consisting of the reports of the Director (Mr. F. Wade), the departments of serology, pathology, protozoology, the serum institute at Izatnagar and a section of appendices showing tables of laboratory products prepared and issued and specimens examined during the year.

The Director was engaged, from August to December, as Animal Husbandry Expert with the Imperial Council of Agricultural Research, during which period Mr. Haddow was in charge of the Institute.

One of the most significant statements in the Director's report is: "For the purpose of conferring a lasting immunity against rinderpest, with the minimum amount of trouble and expense, the use of goat virus alone, either spleen or blood, is now in great demand throughout India, and it may be anticipated that in a very short time it will be the only product used, even in the face of outbreaks, except in those places where the animals are more than usually susceptible." He also makes an interesting statement about strangles to the effect that with a strain of streptococcus isolated from a natural case of the disease in a previous year, it has been possible to produce a condition in new remounts indistinguishable from the natural disase, and following recovery from this artificial infection the animals acquired an immunity equal to that following a natural attack. He records several outbreaks of equine encephalomyelitis in cavalry regiments during the year and states that the disease appears to be on the increase in India.

Amongst the experimental findings recorded it was shown that *Stephanofilaria* and *Onchocerca* (species unidentified) were responsible for hump-sore in cattle and prickly-heat in horses respectively. A very unusual finding in a large and well-controlled experiment was the ineffectiveness of trypan blue as a curative as well as a preventive of *Babesia bigemina* infection of cattle. Following an initial failure with an old stock of the drug a fresh consignment was procured direct from Merck's, of Germany, but no better results were obtained with it. (On account of the uniqueness of this experience it seems desirable to probe further into the matter.) As a substitute for trypan blue

Akiron R. was found to be highly satisfactory, in doses of 2 c.c. or over per 200 lb. body weight, as a curative but not as a preventive of the disease. It is stated that "with the introduction of this drug the problem of eliminating red-water parasites from rinderpest virus-producing bulls may be regarded as having been solved."

Serum treatment for theileriasis (*T. annulata*) has given encouraging results and a large scale experiment was about to be undertaken. The serum was found to be most potent at the end of an attack when the parasites had disappeared, or almost so, from the circulation. *Tryp. theileri* was encountered on eight occasions in cattle but no pathogenic effects from it were observed. Further reports of fatal outbreaks of surra in cattle, due to a trypanosome morphologically indistinguishable from *T. evansi* were received from four areas. The identification of *Piroplasma gibsoni*, or an organism of similar morphology, in blood smears from a dog in China, is stated to be the first record of this infection outside India and Ceylon. A new bovine coccidium, provisionally identified as *E. smithi* was encountered in a bull's faeces. *E. zurni* is the usual coccidium of cattle in India.

W. K.

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Somerset County Council

ANNUAL REPORT OF THE COUNTY VETERINARY OFFICER

The first annual report issued by Mr. Tweed is not only extremely interesting, but of the utmost importance to veterinary officers called upon to control disease in a wide, scattered county, where the difficulty of collecting cattle for examination is very considerable.

In the Diseases of Animals Section the report shows that 396 cases were reported under the Tuberculosis Order of 1925, and of these, 280 were found to come within the scope of the Order. This was an increase of 79 cases on the year 1935, and included 28 cases found on inspection of Accredited herds and 15 found in tracing tuberculous milk samples. When the large cattle population of Somerset is considered the number of cases dealt with under this Order is extremely small, and Mr. Tweed points out that this is probably due to the incidence of tuberculosis in Somerset being much lower than the average. From tuberculin testing carried out it would appear that about 24 per cent. of the cattle population react to the test as compared with the percentage of about 40 which is accepted as the average for the whole country.

Two hundred and nine cases of suspected swine fever were reported, and of these 76 were confirmed, while of 47 cases of suspected anthrax, eight were confirmed. There was also one confirmed case of sheep scab, while two cases of mange were confirmed.

An effort by means of lectures and general educational work amongst farmers is being made in order to control and prevent as far as possible the spread of such diseases as contagious abortion, Johne's disease, mastitis, etc.

In the Milk and Dairies Section, 23 notifications of tuberculous infection in milk were dealt with and as a result 15 cows were found to be secreting tubercle bacilli and were slaughtered.

On account of the large number of dairy cattle in the county, the common practice of field milking and the pasturing of cattle at considerable distances from the farm premises, it has been considered inopportune, meantime, to attempt routine veterinary inspection of the dairy herds, but a scheme of tuberculin testing, which will be watched with very considerable interest by other counties, has been instituted. Under this scheme any owner wishing to free his herd from tuberculosis, and willing to remove all reactors if required, can have his herd tuberculin tested and receive general advice from the veterinary staff, the only cost to the farmer being the price of the tuberculin used. If, however, he does not wish to remove his reactors he can still come under the scheme, but he is charged 1s. 6d. per animal per half year. The stock-owners in Somerset are evidently alive to the great benefit to be obtained from such a scheme, as since April 1st, 1936, 124 owners have taken advantage of it and it is very pleasing to find that of these, 104 have removed all their reactors.

In the first test of 5,773 animals, 1,390, or 24·07 per cent., failed to pass the test, while on retest of 1,083 of those animals, 113, or 10·4 per cent., failed to pass.

Under the Milk (Special Designations) Order of 1936, licences for the production of "Tuberculin Tested" milk were issued during the year to 122 producers, while licences for the production of "Accredited" milk were issued to 400 producers.

The testing of the animals in the tuberculin tested herds is carried out by the veterinary staff of the county council (either whole-time or part-time) at a cost of 1s. 6d. per animal per test, while for the clinical inspection of animals in Accredited herds, a fee of 3d. per cow is charged per inspection for herds not exceeding ten cows and 4½d. per cow per inspection for herds exceeding ten cows.

Under the Tuberculosis (Attested Herds) Scheme of the Ministry of Agriculture five herds have been registered.

Royal College of Veterinary Surgeons

ANNUAL DINNER

Sir Charles Howell Thomas on the Progress of Veterinary Science

The President's Review

In the long series of annual dinners held by the Royal College of Veterinary Surgeons, none has been attended with greater success or has provided more enjoyment for the company than that which took place at the May Fair Hotel, Berkeley Square, W., on Thursday of last week. A gratifyingly large number of fellows and members attended with their ladies, in support of the President, Mr. John Willett, M.R.C.V.S., and College had the privilege of entertaining the following guests: Sir Charles Howell Thomas, K.C.B., K.C.M.G., J. D. B. Fergusson, Esq., C.B., Sir John H. Parsons, C.B.E., F.R.S., M.B., LL.D., Sir John Ledingham, C.M.G., M.B., F.R.S., Professor William Bulloch, M.D., F.R.S., Dr. R. T. Leiper, M.D., D.Sc., F.R.S., Professor W. W. Jameson, M.A., M.D., Captain R. Simpson, F.R.C.V.S., D.V.S.M. (President, N.V.M.A.), Major H. Faudel Phillips, C. Barker, Esq., G. D. Lander, Esq., D.Sc., and F. W. Lamb, Esq., M.D.

Prior to the dinner the company were received by the President and his daughter, Mrs. J. Barratt Stennett.

"THE ROYAL COLLEGE OF VETERINARY SURGEONS"

Following the honouring of the Loyal Toast, Sir Charles Howell Thomas, K.C.B., K.C.M.G., late Permanent Secretary to the Ministry of Agriculture, in proposing the toast of "The Royal College of Veterinary Surgeons, said:—

I deem it a great honour to have been asked by the Council of the Royal College to submit to this important gathering on this occasion—the first occasion, I believe, on which ladies have graced your board—the toast of "The Royal College of Veterinary Surgeons."

I suppose there are but few professions which have contributed to the English language a verb derived from and referring in an abbreviated form to their calling. Veterinarians have such a responsibility, for obviously the verb "to vet" must be directly associated with them. That this verb has been absorbed into the English language is evidenced by the fact that it appears in the Oxford Dictionary and one of the meanings there assigned to it is "to examine." Quite clearly the subject matter of my toast might, therefore, be said to be "those who vet the vets"—or even "vetted vets." (Laughter.) Any practitioner who has been vetted and approved by the Royal College can without doubt not only be said to be sound but also well schooled, well trained, and of good manners and free from vice—(laughter)—for the Royal College is concerned not only with training and scientific qualifications but also with professional conduct.

It is perhaps not altogether inappropriate that the toast should be proposed by one who, for a number of years as Permanent Secretary of the Ministry of Agriculture, was brought into such intimate contact with the valuable work which is being done by the Royal College and by those practitioners who, to the number of some 3,500, are members of the College. In the course of those duties I had opportunities of seeing a good deal of the progress which is being made in veterinary science, not only in this country but certainly throughout the British Empire, as was evidenced by the number of distinguished veterinarians who, drawn from so many countries in the British Commonwealth, attended the British Commonwealth Scientific Conference which was held in this country last year and of which I had the honour of being Chairman—(hear, hear)—and one of whom, Dr. De Kock, of South Africa, is with us this evening. (Cheers.)

This progress is particularly pronounced in connection with research in veterinary science and the increasing interest which Governments, both national and local, throughout the civilised world are taking in this important subject and also in the developments which we are now witnessing in veterinary education. In all these matters the Royal College of Veterinary Surgeons plays a part of prime importance. Much has been done, but much still remains to be done.

Earlier generations of veterinarians eliminated, and present-day practice and regulations are designed to help to protect against, certain devastating diseases, but there still exist, unfortunately, certain other serious infections which in the aggregate represent a heavy handicap to the farming industry.

It has been estimated that losses sustained by our farmers due to certain diseases amount to from 15 to 18 million pounds a year and that if we could eliminate abortion mastitis, tuberculosis and Johne's disease, the average effective life of the dairy cow, now limited to about three or four lactations, might be more than doubled.

The old adage, prevention is better than cure, is not more true in connection with any matter than it is in connection with animal diseases and the watchword to-day for real progress in many of these matters must be prevention. Prevention involves a wide knowledge on the part of practitioners of modern methods and the use of new weapons forged by the wonderful research institutes, both in this country and elsewhere, but all the time it necessitates enthusiasm for the cause and above all the

driving power of some such great force as the Royal College and its members, as well as a determination on the part of agriculturists to eliminate disease from their herds, flocks and other stock. In all such matters the practitioner is a vital link between the State and research institutes on the one hand, and the agriculturist on the other, and happy will be the circumstances in which we may find that in such matters instead of the veterinary surgeon chasing after the farmer, the farmer is chasing after the veterinarian, not only in his own but also in the National interest. In the meantime practitioners — particularly those engaged in rearing districts—can do valuable service by encouraging their clients to take an ever increasing and active interest in the control of disease.

The Government has recognised the need of assisting stockowners to control the spread of bovine tuberculosis and they introduced some two years ago an Attested Herds Scheme, the object of which is to encourage eradication of the disease in infected herds and to protect herds not infected. Frankly, in its initial stages the response was disappointing but I am glad to see that in recent months a greater number of herds are becoming attested. My latest information is that in Scotland 301 herds are attested, whilst in England there are 106 herds attested and in Wales the number is 144; the progress made in the Principality is very gratifying.

At first there was a good deal of criticism of the conditions attaching to attestation, but there seems to be a better realisation now that such control of attested herds is really necessary if the herds are to be kept free from tuberculosis.

In recent years, particularly since the introduction of the Attested Herds Scheme, there has been a considerable increase in the number of herds which are being tuberculin tested, and not necessarily with a view to official recognition. Those of you who have had experience in the eradication of tuberculosis will know only too well of the disappointments which have been experienced in the past, and the criteria laid down by the Ministry of Agriculture should go some way to prevent a repetition of these disappointments. I know, in fact, that this has been the experience of a number of stockowners. If, therefore, the response to the Scheme has not been as great as was hoped at first, it is gratifying that indirectly the launching of the Scheme has encouraged the extension of the work of eradication on improved lines.

I want to thank you, sir, and through you the Royal College for the valuable advice and guidance which has so readily been given on the important subject of disease and its control to Government departments concerned, by distinguished members of your College from time to time.

Veterinary Education

So far as concerns veterinary education—which, throughout Great Britain and Ireland is controlled by the Council of the Royal College of Veterinary Surgeons, in the exercise of the powers vested in them under several Royal Charters and in accordance with the provisions of various Acts of Parliament—the decision to extend the curriculum from a four years' course to a five years' course, which was reached in 1930, marks an important stage in the development of veterinary education in this country.

It is a source of considerable encouragement to know that, notwithstanding that increase in the length of the qualifying course, there has been a steady increase in the number of students, both male and female, under instruction at the five colleges affiliated to the Royal College.

I am particularly interested in the decision which was recently taken by the Council, in devising the new syllabus of examinations, to encourage students to take a real interest in the practical side of their work during their course of instruction.

I should also like, if I may be allowed to do so, to congratulate the Royal College and at the same time to congratulate the University of Cambridge, on the arrangements which have been concluded whereby graduates in the Natural Science Tripos of the University may be registered under certain conditions as third year students by the Royal College of Veterinary Surgeons. I understand that it is the desire of the University to be affiliated with the Royal College and that the University is prepared to undertake to give instruction to their undergraduates in the subjects required for the third examination and after passing the third examination such undergraduates would then proceed to another affiliated college for instruction in the subjects of the fourth and fifth years. This, I feel, marks a very valuable advance and should tend to the production of practitioners well qualified for service in this country or overseas and especially suitable for carrying on important scientific investigations at research centres.

In connection with education I should also like to refer to the important facilities which are being provided at one of your affiliated colleges, the Royal Veterinary College in London, whose new buildings, costing over a quarter of a million pounds and constituting a valuable addition to London's architecture, will I understand, probably be ready for occupation towards the end of the present year. At the same time I understand that another affiliated college, the Royal Dick Veterinary

College, at Edinburgh, is also about to embark on a scheme of expansion.

These are all indications of great progress on which the Royal College of Veterinary Surgeons is indeed to be congratulated and the interest which is being taken in this matter by the Government is further evidenced by the fact that they have recently set up a Committee of Enquiry into Veterinary Education, under the distinguished Chairmanship of an old and respected friend of mine, Sir Thomas Molony, and on which distinguished members of the Royal College are serving as members. The terms of reference to this committee are to review the facilities available for veterinary education in Great Britain in relation to the probable future demand for qualified veterinary surgons and to report thereon and in particular to make recommendations as to the provision which should be made from public funds in the five years 1937-42 in aid of the maintenance expenses of institutions providing veterinary education.

Now the success of an organisation such as the Royal College of Veterinary Surgeons may depend, as I am sure it does, on the services rendered by those who occupy responsible positions as Secretary, Registrar, and Treasurer. From time to time, no doubt, it depends upon the constitution of its Council, but I am quite sure that all the time it depends very largely upon those distinguished members of the veterinary profession who have or have had the honour of occupying the post of President. (Hear, hear.)

It is my privilege to couple with this toast the name of the present President, Mr. J. Willett, and I do so with the greatest pleasure. (Cheers.) He has been a member of the Council since 1920 and has a distinguished record, not only as a veterinary practitioner in London, but also as one holding as he does the office of Honorary Veterinary Surgeon to the King—an appointment which, moreover, he has had the proud distinction of holding to three successive monarchs. (Cheers.)

I congratulate the college most heartily on their President to-day and feel quite convinced that so long as they can secure from the Presidential Chair such eminent and valuable services as those being rendered by Mr. Willett, the future of the great profession with which the Royal College of Veterinary Surgeons is concerned, is assured. (Loud cheers.)

The President's Reply

The President (Mr. J. Willett), who was acclaimed on rising, responded to the enthusiastically honoured toast in the following terms:

As President of the Royal College, I appreciate very highly the references made both to the profession and myself by you, Sir Charles, and am sure that they will have given pleasure to all the members present. You, sir, have given many years of distinguished service to the State, but we remember you more especially during the years 1927 to 1936 when you were Permanent Secretary to the Ministry of Agriculture. We felt and realised that we had always in you a good friend, and your presence here to-night shows that you still maintain that interest in us. We are delighted also to welcome your successor, Mr. Fergusson, whom we are glad to see with us. (Hear, hear.)

Veterinary science is occupying a much more prominent position in the public eye than for many years past. The country seems to be beginning to realise more clearly the important contribution which veterinary science can make to the national well-being. Perhaps the publicity given to the derelict condition of the Royal Veterinary College at Camden Town some years ago and the subsequent enquiry into the question of reconstruction has also had something to do with this increased interest. The College building is now nearly complete and the very imposing structure will in itself serve to create a better impression of the status and functions of the veterinary surgeon. The Royal (Dick) Veterinary College, Edinburgh, of which I am proud to be a graduate, is also busily at work extending its premises, and additions have also been made to the Glasgow Veterinary College. There has been a great increase in the number of veterinary students of recent years, so that even with the increased accommodation available, our veterinary schools have difficulty in placing the students who apply for admission. There is a long waiting list of such students, and, therefore, the Colleges are able to select those who are likely to be a credit to the profession which they wish to enter.

There are many more whole-time appointments both at home and abroad that are open to our graduates. Now that the county councils are appointing whole-time veterinary officers they will absorb a considerable number. This is all to the good, but one cannot help feeling sympathy for the part-time veterinary surgeon in a purely agricultural district who has served the agricultural community for so many years. Now these find a lucrative part of their practices taken from them, and I believe this will be to the detriment of the farming community. (Hear, hear.) I believe some counties are appointing a whole-time officer to co-ordinate the services of the part-time men, as they are loth to do away with those practitioners who have served them so well in the past. They have been the mainstay of the agriculturist and one would have liked to see the transition from the part-time to the whole-time officer more gradual.

Animal Clinics

There is one very serious matter which is giving my Council great concern, *viz.*, the

mushroom growth of so-called animal clinics that are springing up all over the country. Ostensibly they are for poor people's animals and in that way appeal to the charitable, but the majority of them appear to be money-making concerns run by unqualified persons. Even the clinics organised by a well supported institution have no qualified veterinary surgeon attached to them. The people who bring their animals to the clinics I have referred to, seeing a man in a white gown, are deceived into thinking he is qualified. Cases too numerous to mention have been brought to me where unnecessary suffering has been caused to the patient by mistaken diagnosis, and I am sure the same has been the experience of a great many here present. It would, no doubt, be to the benefit of our dumb friends if legislation could be introduced that such places be registered, as are nursing homes, because at the present time they are becoming a public scandal. (Hear, hear.) One of my predecessors, Mr. G. H. Locke, called attention to this when he was President and I only reiterate the opinion he then expressed. The R.S.P.C.A. clinics in this respect are an honourable exception; they do co-operate with veterinary surgeons and we are very glad to help them. (Cheers.) It is a pity that our newspapers and institutions such as the B.B.C. should be so prone to give gratuitous publicity to such activities. It must have the effect of leading the public to suppose that qualified persons are in charge. The average Englishman is very fond of a quack and quack remedies and will try a good few before he consults his doctor. Well, he is entitled to do it, its his own body, but he has no right to submit his dumb friends, who have no say in the matter, to treatment by an empiric.

Our members in the Irish Free State are in a happier position than we are, for according to their laws, no one can practise the art of veterinary surgery unless fully qualified to do so, without running the risk of being penalised either by fine or imprisonment—I only wish we could have the same conditions over here. (Hear, hear).

I mentioned earlier the rebuilding of the Royal Veterinary College at Camden Town and the extension of the Dick College. The present seems indeed to be a time of general expansion, for the National Veterinary Medical Association, whose President we are happy to have with us this evening, has during the last few days moved into more commodious premises in Gordon Square, and we, too, of the R.C.V.S. are about to complete the purchase of the premises adjoining our own in Red Lion Square. One day, when the two are combined, I look forward to seeing a Royal College building of which we shall be proud. I must call attention to the fact that the centenary of our first Charter takes place in seven years' time, and I should like to see a "Building Fund" formed so that we may be able to build at 10, Red Lion Square and obtain a building commensurate with the dignity and importance of our profession, so that those who follow after us on our Council may appreciate the forethought of their predecessors.

In conclusion, I want to thank you, Sir Charles, for the gracious manner in which you have proposed this toast, in a speech which has given pleasure to us all. (Loud cheers.)

"OUR GUESTS"

Dr. O. Charnock Bradley, Principal of the Royal (Dick) Veterinary College, Edinburgh, in submitting the above toast, said that it was one which, with his usual innate modesty, he wanted to claim as the toast of the evening. He had no doubt that Sir Charles Howell Thomas would think that his toast was, but he was quite prepared to break a lance of any length with him when he claimed that without their guests that evening would be merely a travesty: it would be a vain pretension of a feast. They must have their guests; they were pleased and proud to have them and they regarded it as a distinction that their guests that evening were so many and of such eminence in various walks of life. There were really far too many and their distinctions were too numerous for him to endeavour even inadequately to elaborate them to that company. They included men like the President of the N.V.M.A. (Cheers.) They knew with what unfailing enthusiasm Captain Simpson carried on and led the work of his Association. (Hear, hear.) Their guests also included the Registrar of the Royal College of Veterinary Surgeons. They were all perfectly familiar with the fact that were it not for his intelligent organisation and administration the toast to which Sir Charles had referred would not be tinctured with such glory as it was. Among their other guests, and the guests with whose name he had to couple that toast, was one of their most distinguished ophthalmic surgeons, Sir John Parsons. (Cheers.) Sir John's name was known throughout the whole civilised and even part of the uncivilised world. How he managed to carry on the work that he did as ophthalmic surgeon to between 20 and 30 hospitals and at the same time contributed so voluminously to ophthalmic literature he did not understand—a man who could write on the physiology of the eye in four volumes and each volume by no means small; a man who could write on the diseases of the eye with such acceptance to his fellow surgeons that a fifth part was called for and yet could carry on his everyday work was little short of being a marvel. He was in a manner inclined to follow Sir John's profession, because when he was juvenile he used to think that if he could take up surgery in any

form it would be ophthalmic surgery—the beautiful, neat little apparatus struck him as peculiarly fascinating, and he was not a bit sure that one of the attractions was not that the delicacy of the operations was not in any way commensurate with the pecuniary reward. (Laughter.)

Continuing, Dr. Bradley observed that he was quite sure that when many years ago the Lister Institute came into existence all in that room regarded it as a distinct advancement, and all of them had followed with very keen interest the history of that Institute. Directors had come, directors had gone, directors had contributed to the material of the lustre of the Lister Institute. (Laughter.) No one had done more in the time during which he had been director there than Sir John Ledingham. (Cheers.) They were pleased and glad to have him among their guests, for they knew that he possessed the true spirit of research and whatever Sir John knew—and he knew much—was freely at the disposal, not only of the medical profession, but also of veterinary science. (Hear, hear.)

He approached the third name to be coupled with that toast with feelings of reverence and he might almost say with affection. At the same time he was not quite clear whether Professor Bulloch was really a medical man or a veterinary surgeon—he had been so closely connected with veterinary science for so many years that they, he was pretty sure, looked upon him as one of themselves, and he was positive that many that evening had said to him with their lips, "We are glad to see you again," and they had said it also with their hearts.

Professor Jameson was in the same category; he was somewhat junior to Professor Bulloch, but they knew of the interest that he took in veterinary science. They knew what a good friend they had in Professor Jameson; they knew that that friendship would last and they were very proud and very pleased to have him once again as their guest.

They were also very pleased indeed to have with them the Presidents of two corporations that concerned themselves particularly with the equine population of the country; he referred to Mr. Baker, who was President of the Shire Horse Society, and Major Faudel Phillips who was President of the National Horse Association. They were glad to have them with them, if only for sentimental reasons, for it assured them that the popular opinion that the horse was now extinct was not quite correct. They felt that so long as they were with them as their guests there must be at least some horses left in the country.

He was standing at the moment in a curious "time-space" relationship. He was standing between the present and the past. It was a curious position in which to find oneself. He must not say too much of the past lest that should make the present feel that it was being belittled—needless to say he stood between the past and present Permanent Secretaries to the Ministry of Agriculture. Of the past Secretary he would say that they were all very grateful indeed to Sir Charles Howell Thomas for all that he had done for them. (Hear, hear.) So far as the future was concerned, he felt quite confident that things were progressing on the right lines and the reason that had given him that confidence was largely because of what he had learned from Mr. Fergusson that evening. He gave them the toast of "Our Guests."

Sir John H. Parsons was the first to respond to the toast, which was honoured by the company with acclamation. In doing so, Sir John said Sir Charles Howell Thomas and their President had dilated at some length on matters which interested them particularly, and it was obvious that his duty, as President of the Royal Society of Medicine, was to deal to some extent with the relation between veterinary science and the medicine of the human being. They might regard it—and he sympathised with them—as a piece of impertinence for an ophthalmic surgeon to discuss that question at all. He had perhaps some qualifications to speak on that subject, however, because he began his professional life as a physiologist and he believed that none were more qualified than were physiologists to appreciate the gifts which experimental science had conferred upon veterinary medicine. It would be difficult for him to enlarge upon the gifts of veterinary science to general medicine and he did not propose to do it. One thing, however, he would like to say, and that was to stress the debt which they owed to the Section of Comparative Medicine of the Royal Society of Medicine: it had been a great gift to their Society and they were grateful to the veterinary members of that Section for the work they had done for the Society—he would like particularly to mention the great amount of work which was done in that connection by Sir Frederick Hobday: the amount of labour which he gave to the Royal Society of Medicine was really quite exceptional. (Cheers.)

Sir John C. G. Ledingham, having expressed his appreciation of the invitation extended to him to be present that evening, said that the happy way in which they had responded to the toast proposed by Dr. Bradley and the kind words the latter had spoken about those of them who had the privilege of being present as the guests of the Royal College, particularly those which had reference to himself, made his task a pleasant one.

His introduction to the veterinary art went back to his school days in the 'eighties. The particular exponent of the veterinary art in his part of the country at that time, however, they

did not know as a veterinary surgeon—the five letters on his brass plate were always a mystery to them and they knew him only as the "ferrier." (Laughter.)

It had always been an absolute mystery to him (proceeded Sir John) why the medical and veterinary arts had gone along quite individual paths without being, as they should be, complementary to each other, having a common basis in anatomy and physiology. (Hear, hear.) Preventive medicine was a fine, all-embracing term, and he was glad it was chosen for the institute where he worked so long—research in preventive medicine as applied in common for human needs and for veterinary needs. All advances in veterinary medicine and in human medicine were dependent entirely upon experimental science, and they were greatly indebted to the veterinarian for his assistance in this field. It would seem that the medical man of the future could take a leaf out of the book of the veterinarian, who had had his expert in animal husbandry and his expert in animal breeding, and there was good reason why the medical man of the future would have to follow his example if the best results were to be obtained. Now that they recognised their problems to be common to both, he thought that this would be a likely development: that they would have to concentrate on the maintenance of well-being in the mass without necessarily resorting to the employment of euthanasia for the weak and feeble. Instead of adopting that procedure he thought they might reasonably consider the employment of a corps of geneticists and let them hope that when these geneticists got going they would produce something better than the picture they saw in the *Punch* cartoon of the previous day. (Cheers.)

In the course of a witty reply, which was also made by Professor William Bulloch, but which caused so much amusement amongst those in his vicinity that he was indistinctly heard at the Press table, the third respondent to the toast, when speaking in more serious vein, said that he had had a great deal to do with the veterinary profession and some of the happiest moments of his life had been spent with them. His main point of contact with the veterinary profession had been in the capacity of examiner, in association with the Veterinary Research Institute, which had in his opinion done much useful work, under Dr. Minett. Many experiences in his life had given him the deepest regard for the veterinary practitioner. At one time he had two animals at the College under the care of Dr. McCunn, and he was so gratified at the treatment they received that he pressed him to accept a token in recognition of his gratitude. He was extremely touched when Professor McCunn said that he would use it for the purpose of the purchase of necessaries for the sick animals of people who were too poor to pay for them themselves. He wished to say, in conclusion, how much he enjoyed the speeches that evening, in particular those of Sir Charles Howell Thomas and Dr. Bradley.

A most acceptable and universally appreciated addition to the pleasure of a memorably enjoyable evening was the gifted rendering by Mr. Sterndale Bennett and Mr. Fred Gregory of a large number of highly entertaining songs at the piano.

R.C.V.S. CENTRAL LIBRARY FOR ANIMAL DISEASES

The following are included amongst the recent acquisitions made by the Royal College Library:—

Text-books.

Borradaile, L. A. "A Manual of Elementary Zoology." 8th ed. 1935.

Harvey, W. C., and Hill, H. "Milk Production and Control." 1936.

Leclainche, E. "Histoire de la Médecine Vétérinaire." 1936.

Schmaltz, R. "Entwicklungsgeschichte des tierärztlichen Berufes und Standes in Deutschland." 1936.

Reports.

Ministry of Agriculture. Proceedings under the Diseases of Animals Acts for 1935.

Privy Council. Report of the Agricultural Research Council, 1933-35.

Imperial Agricultural Bureaux. Seventh annual report of the Executive Council, 1935-36.

Royal Agricultural Society of England. Farmer's Guide to Agricultural Research in 1935.

University of Cambridge. Fourth report of the Director of the Institute of Animal Pathology, 1934-35.

National Institute for Research in Dairying. Annual report, 1935.

Gold Coast Colony. Report of the Department of Animal Health, 1935-36.

Nyasaland Protectorate. Report of Veterinary Department, 1935.

New York State Veterinary College at Cornell University, report for 1934-35.

Pamphlets, Reprints, etc.

Secretary of State for the Colonies. Nutrition policy in the Colonial Empire, 1936.

Australia. Council for Scientific and Industrial Research. Sheep and wool industry in N.E. Asia. 1936.

Ministry of Agriculture (leaflet). Stomach worms in sheep. 1936.

Mason, J. H. Bloedpens strain of *Cl. welchii*, Type B, Wilsdon, 1935, *and* Production of immunity against *Cl. welchii*, 1935.

Evans, J. T. R. *Trypanosoma congolense* infection in cattle—treatment. 1936.

Bennett, S. C. J. Treatment of *Trypanosoma congolense* infection. 1936.

Sévilla, H. J. L'art vétérinaire antique. 1936.

* * * * *

The Glamorgan Education Committee have referred back for further consideration a proposal to substitute pasteurised for tuberculin-tested milk as the first choice in schools.

N.V.M.A. Council Meeting

Summary of Proceedings

Taking in the order in which they were dealt with the more important matters occupying the attention of the Council, N.V.M.A. at the meeting held on April 6th, and the proceedings at which will be reported in full in our next issue, there is first to be noted the receipt from the Secretary of the Agricultural Research Council of a letter in which gratifying comment was made on the review of the Report of that Council appearing in the *Veterinary Record* of January 16th, and also embodying an appreciative reference to the editorial, "Some Aspects of the Organisation of Agricultural Research," published in the same issue.

A further matter for gratification was the information contained in the report of the Organising Committee that the representations made to the Minister of Agriculture both by the committee direct and by the Parliamentary Science Committee on its behalf, that the veterinary profession be accorded representation on the proposed Livestock Advisory Committee, would not be overlooked when the formation of the main committee and the various advisory committees was under consideration.

In the foregoing and other matters the Editorial Committee has thrown the weight of the Association's journal behind every endeavour put forward by other committees to influence Authority wherever the interests of the profession are concerned. An outstanding instance is the support given to the activities of the Appointments Committee following upon the announcement by the Minister of State for the Colonies of his regrettable decision not to revive the post of Adviser on Animal Health to the Colonial Office rendered vacant by the lamented death of Mr. Eustace Montgomery. In the light of the comments which have been received from certain Directors of Colonial Veterinary Services, strongly supporting the Association's view that the post should be re-established, the Minister is to be requested to receive personally a deputation from the N.V.M.A.

Two additional deputations are "in the offing." One may be the outcome of the consideration which has been given by the Veterinary Officers' and Public Health Committee to the arrangements made by the Gloucestershire County Council for the tuberculin testing of herds under the Milk (Special Designations) Order, 1936. In the first instance, however, enquiries are to be made as to the county council's authority for asking a licensee who desires that a post-licence test shall be made by his own veterinary surgeon, to pay a fee of 2s. 6d. per animal per annum for the compulsory presence of the Chief Veterinary Officer. The second deputation may be called upon to wait upon the Dorset County Council when the proposals are received which the Southern Counties Division are formulating for the expansion of tuberculin testing in the county.

The recent transference of the offices of the Association from 2, Verulam Buildings, Gray's Inn, to 36, Gordon Square, is, of course, reflected in the report of the Finance and General Purposes Committee, with whom lay the authorisation of the steps, at once efficient and economical, taken by the Premises Sub-Committee to furnish and equip the new quarters, and allocate the accommodation for council and committee business and that performed by the secretarial and editorial staffs respectively. Every feature of the Association's House and its use has been commented upon in these columns with one very notable exception—the provision on the second floor of a Common Room for members, furnished with a regard for comfort which, it is hoped, will induce members to view it, when in Town, as their natural rendezvous.

The multifarious duties of the parent committee have embraced consideration of the attitude adopted by the Kennel Club in regard to the awarding of Challenge Certificates by veterinary surgeons. The report of the deputation which met the Kennel Club Committee on this matter revealed the fact that the Association's representatives had been assured by the Chairman that the Kennel Club had imposed no ban on the profession generally, but considered on its merits each nomination of a veterinary surgeon. The Committee of the Kennel Club are to consider the deputation's strongly urged proposal that, in view of the widespread misunderstanding that has arisen, a statement should be issued indicative of the position as interpreted by its Chairman to the members of the Association's deputation.

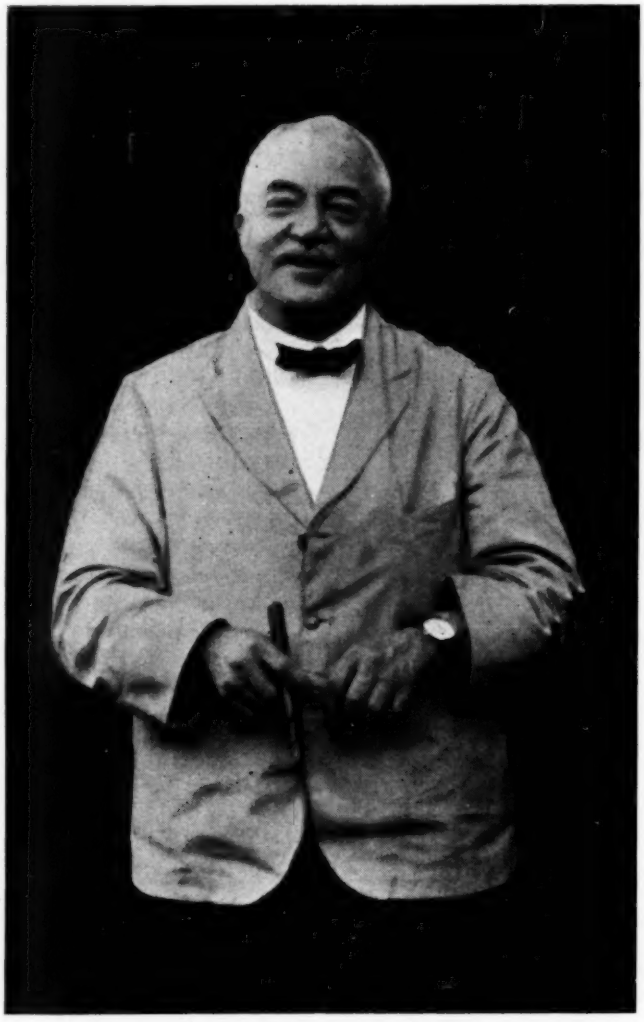
An item in the report of this committee which gave much satisfaction to the Council was the intimation of the receipt from the Ministry of Agriculture of a letter advising that Dr. W. R. Wooldridge, who is Chairman of the Editorial Committee, N.V.M.A., had been appointed a member of the Departmental Committee on Veterinary Education. The main body of the Association's evidence to that committee already has been presented and the compilation of supplementary statements is in progress.

In view of the heavy additional financial commitments of the Association, the achievement of a record in membership which brings the total to within striking distance of the President's aim for this year—2,000—is most timely, while there will also be welcomed the prospect of the very early issue of the Report of the Special Committee on Small Animal Euthanasia.

R.C.V.S. Obituary

The Late Mr. H. Caulton Reeks, F.R.C.V.S.

As briefly recorded in our last issue, the death took place at Spalding, on April 6th, of Mr. Henry Caulton Reeks, F.R.C.V.S., at the age of 65. The news of his death, needless to say, has been received with widespread sympathy and sorrow, for Mr. Reeks was not only a recognised authority in his profession, but was also a most likeable personality, exceedingly well-known and very highly respected. It seems that he was out on business in his car shortly before he died and complained of feeling unwell. Dr. W. R. Burton and an ambulance were summoned and he was at once conveyed to his residence, where despite every attention he passed away just before 10 p.m., death, it is stated, being due to a seizure.



In the realm of veterinary literature, Mr. Reeks has been regarded as an author of distinction. His book "The Common Colics of the Horse," made his name widely known and was frequently quoted in the Law Courts. In the recognised standard book, "A System of Veterinary Medicine," Mr. Reeks's book is quoted many times in the chapter on equine intestinal diseases. In view of these facts, special interest attached to his later work, "Diseases of the Horse's Foot," which was published in 1925, and included many plates which were the result of his keen photographic interest in veterinary subjects. Mr. Reeks had a very facile pen and a happy knack of gripping the attention of the reader, veterinarian or lay.

"Mr. Reeks searched far afield for much of the material for his books, and in the translation of reports on researches of some German authorities he had the assistance of his townsman, Colonel G. J. Barrell," says the *Spalding Guardian*.

"No more complicated piece of anatomy exists than the horse's foot, and yet it has probably had less literature devoted to it than any other part of the animal. To his own wide experience, Mr. Reeks did not hesitate to add the best from other authorities, and the result was always a completeness that formed an invaluable contribution to this class of standard work.

"His comments on the sins of those who shoe carelessly or in ignorance were candid and clearly-defined.

"Moreover, this distinguished veterinary surgeon was for ever the champion of the horse. He wrote: 'In the oldest industry of all, that of agriculture, the place of the horse can never be wholly taken by the motor and the tractor; and, so long as we have him with us, works dealing with his care and his welfare will be needed.'

"So passes a famous, beloved gentleman, pre-eminent in his profession, and respected for his happy, jovial personality. He made his mark in the world. All the good he did will live after him."

Born at Shaftesbury, Dorset, he was eight years of age when his father set up in practice in Spalding. Mr. Frederick H. Reeks, was over 80 when he died, having celebrated the sixtieth anniversary of his graduation as a member of the Royal College of Veterinary Surgeons. Inheriting the latter's skill with animals, Mr. Reeks studied at the Royal Veterinary College, London, where he made rapid progress. After receiving his degree he came back to Spalding in 1896 to assist his father. The latter retired some 30 years ago.

Mr. Reeks had since built an exceptionally big practice extending in a 20-mile radius of Spalding. He was an examiner for the Royal College and was for many years a Ministry of Health Inspector in connection with swine fever and the licensing of stallions.

A familiar figure throughout South Holland, he was always very popular with the poor, many of whom will never forget his kindnesses towards them.

In 1900, he married Miss Rachel Cauldon, of Town End Manor, Spalding, and a family of three, one son and two daughters are left. In 1935 Mr. H. C. Reeks lost a son whose partnership in the business with his father revealed promise of a splendid career. Thus within the space of a short time three local generations in the profession have passed on—father, son and grandson.

The interment took place at Spalding on Thursday, April 8th, the Vicar (Canon B. G. Nicholas) officiating both at the church and at the cemetery. The very large company present at the church and graveside included the following members of the veterinary profession: Captain T. B. Bindloss (Long Sutton), Mr. R. D. Callaghan (Boston), Captain W. A. Dickinson (Peterborough), Mr. J. Hill (Long Sutton) and Captain W. W. Lang (Brigg).

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An Appreciation

Death, with startling suddenness, has removed from our midst a truly remarkable man—only two days previously he had successfully reduced a prolapsed uterus, no light task; and he was proud of his achievement—and one whose work will live long after him.

Small in stature, shy yet courageous, modest and unassuming to a degree, he had the happy knack of placing his visitor in the centre of the stage as it were while he himself sat quietly by listening and prompting. He was full of sympathy, too, for the aspirations of others and when, comparatively recently, I confided an ambition to him he wrote at once wishing me success and saying: "What a grand start it would be for the New Year."

A great authority himself, he never failed at any time to give credit to others or quote their writings should they be applicable to his subject, due acknowledgment being made.

A master of simple language, he could draw a wonderful pen picture—read his account of a fatal case of caecal impaction in his work, "Common Colics of the Horse"; I am told that much of the writing descriptive of his cases was done in the early morning in cold, cheerless waiting rooms while waiting for his train home after sitting up all night with a case.

How he revolutionised colic treatment, how he trounced the use, or rather abuse, of anodynes and proved his statements to the hilt, is well known to us all. He had no hesitation in expressing his honest belief and on the other hand, he magnanimously retracted anything he had said when he found he was mistaken. For instance, he once stated his belief that impaction of the caecum could not be overcome; then shortly afterwards he wrote saying that I need no longer try to convince him as he was satisfied that my claims were correct, having had four such cases all of which had recovered.

His was a generous spirit; he was at once a friend to those who added anything of value to our common knowledge and particularly he appreciated to the full any efforts of others in that field which for years was his own. While attending the last obsequies I saw such a volume of evidence of the love and respect in which this great little man was held as was truly touching and it will be an impossible task to convince his friends, his clients, that another such will arise.

Caulton Reeks gave of his best to his fellow men, but to us, his colleagues, he gave something more—a wonderful example of what the busy practitioner, if he will, can do for the common weal.

W. W. Lang.

N.V.M.A. DIVISIONAL REPORT

Lancashire Veterinary Association*

MEETING AT LIVERPOOL

A General Meeting of the Lancashire Division was held at the Department of Veterinary Pathology, Liverpool University, 42 and 44, Bedford Street North, Liverpool, on Wednesday, January 27th, 1937, at 2.30 p.m.

The Chair was occupied by the President, C. F. Shawcross, Esq., M.R.C.V.S., and the following members were present: Messrs. R. C. Locke, N. M. Clayton, W. Woods, G. Mayall, H. G. Hewetson, T. Wilson, Kathleen Massey, W. Fowle, K. D. Downham, J. O. Powley, J. Holroyd, P. A. O'Neill, J. Cubby, H. Holroyd, J. C. Baird, H. T. Matthews, J. W. Wilson, R. J. Thomas, H. Sumner, A. Ratter, H. R. Hewetson, P. T. Lindsay, G. Tullis, G. O. Davies, A. B. Mattinson, A. L. Mullen, Miss Phyllis Stubbs, Messrs. P. Richmond and G. Shirley. Professor J. F. Craig, Messrs. A. J. Needham, S. C. Young, T. G. Bonallo and R. F. Creasy, were present as visitors.

Apologies for unavoidable absence were received from Messrs. J. H. Wright, A. B. Kerr, E. A. Comer, A. J. Wright, W. F. Morton.

Obituary.—Before calling upon the Hon. Secretary to read the minutes, the President made sympathetic reference to the loss of two

*Received for publication March 19th, 1937.

of the Association's members—Mr. H. Sumner, of Liverpool, and Mr. T. H. Lomas, of Wilmslow.

The President, in paying a tribute of appreciation to these two members, referred to the long association of Mr. Sumner with the Lancashire Division of which he was an Honorary Associate. He would always be remembered as a great veterinary surgeon and a big-hearted gentleman, always ready to help the veterinary student.

Mr. Lomas, though not quite so public a figure, upheld the dignity and prestige of the profession.

Reference was also made to the death of Mr. Curbishley's youngest son in London on January 10th, 1937.

In anticipation of the wishes of the meeting, the Hon. Secretary had already sent letters of condolence to the relatives of these gentlemen.

Mr. W. Woods paid tribute to Mr. Sumner as he was perhaps one of the oldest of his friends. He would have liked a little preparation to say something about him. They were both born in the same year and took their diplomas in the same year. Mr. Sumner could be described as one of the founders of the Veterinary School in Liverpool. His heart was in it until his illness. He was everybody's friend, nobody's enemy; he had the respect of all who knew him.

As a token of respect the members stood in silence.

The minutes of the previous meeting, having been published in the *Veterinary Record*, were taken as read.

Correspondence.—(1) Apologies for unavoidable absence were read.

(2) Letters of acknowledgment from Messrs. H. Sumner, Junr., E. H. Curbishley, and D. Lomas.

(3) From B. Heaton, Esq., acknowledging the gift made to him by the Association for services rendered over a number of years in reporting at meetings of the Association.

(4) From Dr. Bullock acknowledging the sum of £2 2s., being a donation made to the Victoria Veterinary Benevolent Fund by the Lancashire Veterinary Association.

(5) From Mr. T. Dobie, of Birkenhead, tendering his resignation from the Association. On the proposition of Mr. Woods, seconded by Mr. J. O. Powley, it was agreed that a letter be sent asking him to reconsider his decision.

(6) From the National Veterinary Medical Association with reference to courses of instruction in precautions to be taken in the case of air raids and gas attacks, and which were being arranged by local divisions of the British Medical Association with the help of the Home Office. The Hon. Secretary had communicated with the local Secretary of the British Medical Association, in Manchester, and had received a letter to the effect that a course of lectures on this subject would commence at an early date in Manchester. Mr. Clayton, of Birkenhead, volunteered to attend the courses provided by his local authority and give an address to the Division during the coming year.

(7) From the Royal Sanitary Institute, inviting the Association to appoint a delegate to the Annual Congress to be held in Birmingham next July.

Nominations for Membership.—Mr. Mullen proposed Mr. G. N. Shirley as a student member of the Division. Mr. J. Lyon and Mr. J. McWilliam, both of Nantwich, were nominated by Mr. T. Wilson.

Election of New Members.—Messrs. R. J. Thomas, of Liverpool, N. M. Clayton, of Birkenhead, J. H. Paterson, of Winsford, and A. W. Gill, of Whaley Bridge, were proposed by Mr. C. F. Shawcross, seconded by Mr. R. C. Locke, and were unanimously elected members of the Association.

Council Report

The Hon. Secretary read the report of the council meeting held in Manchester on December 16th, 1936, as follows:—

"The President, Mr. C. F. Shawcross, occupied the Chair. Members present were: Messrs. H. T. Matthews, E. H. Curbishley, G. O. Davies, H. R. Hewetson, T. Wilson, R. C. Locke, A. J. Wright, G. Mayall, G. H. Locke and the Hon. Secretary.

An apology for non-attendance was received from Mr. J. Holroyd.

The minutes of the last council meeting were read and approved.

Correspondence.—Anti-gas warfare precautions. It was resolved to recommend that at a future date an address on the subject be given to the Association.

Tuberculin Testing.—It was resolved to recommend that the following scale of fees be adopted by the Association for tuberculin testing. Three visits at the usual mileage rate, with 5s. per head up to twenty and 2s. and 6d. per head for all others.

Nomination of Officers and Council for 1937

It was resolved to recommend that the following be nominated to office for the coming year.

President.—Mr. H. Sumner, M.R.C.V.S., of Liverpool.

Vice-Presidents.—The retiring President (Mr. C. F. Shawcross) and Mr. G. Mayall, of Bolton.

Hon. Secretary.—Mr. H. C. Baird, B.V.Sc., M.R.C.V.S., of Liverpool.

Hon. Treasurer.—Mr. R. C. Locke, M.R.C.V.S., D.V.S.M., of Manchester.

Honorary Auditors.—Mr. J. H. White, of Liverpool, and Mr. A. Dobie, of Liverpool.

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(Signed) W. T. Raw,
Secretary ("B" District), Swaledale Sheep Breeders' Association,
Richmond, Yorks.

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Council.—The five retiring members (Messrs. E. H. Curbishley, J. Spruell, G. C. Webster, H. T. Matthews, T. Wilson) and Messrs. P. T. Lindsay, R. H. Oddy, A. L. Mullen.

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Any Other Business.—It was agreed that letters be sent to the following members: Mr. H. Sumner, of Liverpool, upon the death of his father. Mr. E. H. Leyland, of Prescott, in connection with his recent illness.

It was resolved to recommend that a notice be inserted at the foot of the Association's circular to the effect that members becoming aware of the serious illness or death of a neighbouring member should transmit the information without delay to the Hon. Secretary.

On the proposition of Mr. G. Mayall, seconded by Mr. Holroyd, it was unanimously resolved that the council report be adopted.

A letter had been received from Mr. Curbishley requesting that his name be withdrawn from the list of candidates for election to the council. It was unanimously agreed that Mr. Curbishley be approached to reconsider his decision.

Address.—The President here called upon Mr. K. D. Downham, B.V.Sc., M.R.C.V.S., of the Harper Adams Agricultural College, to present his address on "The Prevention of Animal Diseases." [Mr. Downham's address and a report of the ensuing discussion, are reproduced at the commencement of this issue of the *Record.—Editor.*]

Vote of Thanks.—Mr. G. O. Davies, in proposing a vote of thanks to Mr. Downham, expressed his appreciation of the stimulating paper the latter had given them on so comprehensive a subject as the prevention of animal diseases. He had heard sufficient to show that it had been a popular choice. He was glad to see Mr. Downham back once more in his old surroundings and he had much pleasure in proposing that he be accorded a hearty vote of thanks.

Mr. H. Sumner, in seconding, said that he felt proud of Mr. Downham's attainments and achievements, seeing that it was in these surroundings that he started his career.

Mr. Downham thanked the meeting very much for their warm reception. He clearly remembered Mr. Sumner at school and saw in him a very powerful man both physically and mentally.

It had been a great pleasure to him to come again to Liverpool that afternoon.

Exhibits.—Professor Craig exhibited three *post-mortem* specimens illustrating (1) Internal hydrocephalus in a horse; (2) An abnormal bovine uterus; (3) Atheroma of the endocardium in the heart of an aged gelding. [Professor Craig's description of these exhibits, with the clinical history of the subject animals, is transferred to our Clinical Section.—*Editor.*]

A. L. Mullen, *Hon. Secretary* (retiring).

In Parliament

Films and Animal Cruelty

The House of Commons, on Friday of last week, gave a Second Reading to the Cinematograph Films (Animals) Bill.

In moving, Sir Robert Gower said that throughout the country unanimity existed with regard to its principles. The Bill had already received the blessing of the Film Censor and it was significant that the trade Press had not said one word against the principles of the Bill. It had been promoted by the Royal Society for the Prevention of Cruelty to Animals, with the support of the National Canine Defence League and other societies.

The object of the Bill was to prohibit the production or exhibition of films depicting the sufferings of animals. It would make illegal the exhibition of films which for some time had been exhibited in this country. The Royal Society for the Prevention of Cruelty to Animals kept a dutiful eye on all films in which animals were introduced. Scenes in one of these which was exhibited last year included a small monkey which was terrified by a large snake which was close by, but before the snake actually struck, a hand removed the monkey; a gorilla shot and killed; a leopard stalking a hyena; a rhinoceros shot and killed; a hyena attacked by an animal, which devoured the carcase; animals caught in a trap; crocodiles shot at by hunters, one or two being killed; and a fight between two snakes, the victor swallowing the vanquished. There could be no doubt that this film was objectionable to watch and that was the type of film which they desired not to see on the screens of this country. (Hear, hear.)

There had been a long controversy on this question in the Press and particularly in *The Times*. It was only a short time ago that that great public servant Sir Hesketh Bell wrote a letter to *The Times* in which he deplored some of the films showing animals which were being exhibited in this country. Not for a moment, he wrote, would anyone in our country be allowed to make a public, or even a private, exhibition of wild animals in the flesh fighting each other to death. Bull fights, cock fights, and anything of that nature had been prohibited by law. Why then, Sir Hesketh Bell asked, should such things be permitted to be shown on the screen and in such a manner that no detail could be missed? The majority of wild animals in their natural habitat were usually in harmony with each other and rarely killed except to provide themselves with their natural food. It was reasonable to assume that such incidents as battles between a leopard and a python were artificially arranged. Pictures of the sort that were now being shown in this country, Sir Hesketh Bell said, were of an utterly debasing character. They could only appeal to bloodthirsty instincts. Was this sort of thing to be allowed to continue and probably grow worse or were those responsible going to stop the exhibition of such pictures?

It had been pointed out to him by Sir F. Fremantle that if the Bill was passed in its present form it would prevent the exhibition of films showing experiments on animals to the students in the medical schools; and that the result would be that more animals would have to be experimented on, because actual experimentation before the students would have to take the place of the films at present shown. The

promoters agreed and sympathised with that point, and if the Bill got a second reading this matter would be dealt with in committee.

It had been suggested that the Bill might make illegal the exhibition in films of incidents which occurred at race meetings. But a sub-section of Clause 1 made it clear that it was not the intention to prohibit the making or exhibition of a film of an event or scene, not organised or arranged for the purpose, merely because it depicted an accident involving an animal. If this Bill was passed it would be established beyond all doubt that no animals could be subjected to ill-treatment in this country for the purpose of producing a film.

It was demoralising and degrading to young children to witness the sufferings of animals depicted in films. It could not be for the good of either children or adults that they should witness in films not only the suffering of animals but animals apparently being deliberately subjected to cruelty for the sake of amusement. Practically every educational authority of note in the country had protested at some time or another against the exhibition of these films. The scandal of these films was such that the law on the subject should be placed beyond doubt.

Lieut.-Colonel Moore, in seconding, said that this was not a sentimentalists' Bill; it could be supported in principle by every realist in the House. The average Englishman did not like to see cruelty inflicted on animals. We were becoming increasingly cinema-conscious, and the cinema to-day was probably the most popular entertainment in the world and had the most vital effect on public opinion.

Under the Bill producers would be forced to find out by research and other methods how to get the same successful cinema effects without inflicting on animals pain and suffering, both unnecessary and unmerited.

Sir E. Campbell said that it would be a pity to prevent people who were unable to travel to see something of the wild life of the jungle. But as one who had been fortunate enough to see the jungle—too much of it sometimes—he supported the Bill.

Mr. J. G. Kerr expressed the view that penal legislation was not the way to deal with this matter. If children were educated properly they would have an absolute abhorrence of anything in the nature of cruelty.

Mr. Crossley said that it was high time that some legislation was brought in to deal with this matter. It would have been very desirable to have had some sort of inquiry first, for it was very difficult to know how much cruelty was perpetrated in the making of these films. Undoubtedly the chariot race in *Ben Hur* caused great cruelty to the horses. Another film which occurred to him was the *Tarzan* film. These seemed to be of quite a different character from films depicting natural wild life. There was a vast difference between cruelty deliberately perpetrated in the making of films for public showing and cruelty incidental to natural life and depicted in scenes of natural life. Secondly, it would be unfair if the Bill were to apply to films which had already been made. Retrospective legislation was almost always unfair.

Government Reply: Home Office Agreement

Mr. Lloyd, Under Secretary, Home Office, said that Sir R. Gower had rendered a service in bringing this subject before the House. Everyone would agree that the object of the Bill was most desirable. No one would desire that suffering should be caused to animals in the production of films or that films intended for exhibition should depict suffering on the part of animals. It was just as well that film producers in all parts of the world who were thinking of this country as a market for their films should realise the attitude taken up by Parliament.

The Home Office was in substantial agreement with the object of this Bill, but they could not follow Sir R. Gower in his statement that there was no law in this country which could effectively prohibit the exhibition of such films. Cinemas in this country could not be opened for the public exhibition of films until they had received permission from the local cinematograph licensing authority. One of the conditions attaching to the issue of a licence was that the films proposed to be shown were not likely to be injurious to morality or offensive to public feeling. If the licensing authority served a notice on the owners of an objection to a film that film could not be shown. Films shown in this country had also to be passed by the British Board of Film Censors. Their decision was not final, but the cases in which films not passed by them were allowed to be shown were very few. The Board had given a great deal of thought to the question of animal films. They were alive to the dangers and it was their practice to refuse to pass any incident in a film if it could reasonably be supposed to have been produced by means which had necessitated cruelty to animals or means of restraint amounting to cruelty.

They had gone farther and had eliminated incidents, as a general rule, in which cruelty had been portrayed or suggested, notwithstanding that no live animals had been used in the production of the particular film. The ingenuity of film producers was such that they could make use of dumb animals without the public being any the wiser. A film was shown recently in which a number of elephants appeared, but which were in fact constructed entirely on mechanical and not biological principles, and in spite of that, they succeeded in deceiving an eminent circus proprietor when he saw the film. Hon. members would agree that the Board's practice was a sound one, because even if dumb animals were used it was not right that films should be shown which created an impression that suffering had been caused.

Three or four years ago there was a wave of animal films and the Board at that time gave the matter particular attention and took action which hon. members would agree was sound. They set up a panel of experts nominated by societies which were interested in animal welfare to advise them. He understood that that panel had done considerable work in advising the Board.

Sir R. Gower said that at the present time great dissatisfaction existed among members of the panel, particularly on the part of the R.S.P.C.A.

Mr. Lloyd said that he was sorry to hear that, but members would agree that the setting up of this panel was a move in the right direction. They had no evidence at the Home Office to show that the present control was insufficient. In addition to the powers which he had described there was an additional guarantee. The ordinary law relating to cruelty to animals could be invoked. There was no power to control the actions of producers in other countries, but foreign-produced films relating to animals were subject to the same control of the British Board of Film Censors and the local authorities as films made in this country. The Home Office felt that the existing powers were

sufficient. It was for hon. members to decide whether they were satisfied with these powers or whether they wished to make assurance doubly sure by passing a measure of the kind before them.

The Bill was then read a second time.

* * * * *

The following questions and answers have been recorded in the House of Commons recently:—

LIVESTOCK (IMPORTS)

Mr. WESTWOOD asked the Minister of Agriculture how many head of live cattle and pigs were imported into Great Britain from overseas (including those from Northern Ireland) during 1934, 1935 and 1936, respectively?

The MINISTER OF PENSIONS (Mr. Ramsbotham): I have been asked to reply. As the answer consists of a table of figures, I propose, with the hon. Member's permission, to have it circulated in the *Official Report*.

Following is the statement:

Numbers of live cattle and pigs landed at ports in Great Britain from all sources in the years 1934, 1935 and 1936:

Year.	Numbers of live animals landed.	
	Cattle.	Pigs.
1934	702,542	164,274
1935	860,637	207,310
1936	918,315	159,000

The areas from which the above animals were shipped comprise Northern Ireland, the Isle of Man, the Channel Islands, Canada and the Irish Free State.

. . . . .

POULTRY INDUSTRY

Mr. TURTON asked the Minister of Agriculture whether he is now in a position to announce the steps the Government propose to take in order to save the poultry industry in this country?

Mr. RAMSBOTHAM: My right hon. Friend is not in a position to make any further announcement of Government policy in regard to the poultry industry at the present time.

THE EVIDENCE FOR COMPULSORY PASTEURISATION OF MILK

In an article appearing in the *British Medical Journal* of March 27th, Dr. C. Fraser Brockington, Medical Officer of Health, Horsham and Petworth Combined Districts, gives his reasons for advocating the compulsory pasteurisation of milk.

Milk purveyed by present methods may contain dirt and pathogenic organisms, says Dr. Brockington, and while dirt may be tolerated, pathogenic organisms (*Brucella abortus*, Koch's tubercle bacillus, and the organisms of enteric fever, etc.) should be permitted no longer. Cattle infections contaminating milk while in the udder and a variety of organisms introduced to milk later by human handling are to-day causing sickness; the amount of this has not yet been completely estimated, but it has been shown clearly by many workers to be extensive. The eradication of these infections among human beings cannot be left to await a Utopian state where diseased cattle have been eliminated and all milking is mechanically performed in such a manner that external contamination is no longer possible, and Dr. Brockington holds that universal compulsory pasteurisation presents the only method of preventing the spread of cattle infections and the contamination of milk by human handling.

Notes and News

The Editor will be glad to receive items of professional interest for inclusion in these columns.

Diary of Events

April 20th.—Meeting of the Derbyshire Division, N.V.M.A., at Sutton Bonington, 2.30 p.m.

April 26th.—Meeting of the Editorial Committee, N.V.M.A., at 36, Gordon Square, W.C.1, 4.30 p.m.

April 28th.—Annual Meeting of West of Scotland Division at Glasgow, 4 p.m.

April 29th.—Meeting of the Dumfries and Galloway Division, N.V.M.A., at Carlisle, 12.15 p.m.

April 30th.—Meeting of the Royal Counties Division, N.V.M.A., at Aylesbury.

May 6th.—Nominations for Election to R.C.V.S. Council due.

May 12th.—Coronation Day.

May 13th.—Entries for D.V.S.M. Examination due.

May 19th.—R.C.V.S. Voting Papers issued.

May 27th.—R.C.V.S. Voting Papers to be returned.

June 3rd.—R.C.V.S. Annual Meeting.

Victoria Veterinary Benevolent Fund Annual Meeting.

June 10th.—D.V.S M. Written Examination begins.

June 14th.—D.V.S.M. Oral and Practical Examination begins.

June 23rd.—R.C.V.S. Committee Meetings.

June 24th.—R.C.V.S. Committee Meetings.

June 25th.—R.C.V.S. Committee and Council Meetings.

July 5th.—R.C.V.S. Written Examinations.

July 6th.—R.C.V.S. Written Examinations.

July 8th.—R.C.V.S. Oral Examination begins.

July 26th-30th.—N.V.M.A. Congress at Bournemouth.

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A GOOD MOVE IN RETROSPECT

Now that the process of settling in at 36, Gordon Square is completed, it is incumbent upon us to thank, for their forbearance, all those—Members, contributors and advertisers—upon whom may have been reflected some measure of the inconvenience inseparable from the move to new quarters. Smooth working being re-established, we are in a better position to assess the benefits of the change to really

adequate accommodation, admirably furnished and equipped for the conduct of the business of the Association.

This successful outcome of the decision to acquire new quarters is due to the indefatigable efforts of the Premises Sub-Committee of the Finance and General Purposes Committee of the Council—a sub-committee consisting of Major Kirk, Mr. McIntosh and Dr. Wooldridge. Outstanding services in connection with the furnishing and equipment have been rendered by Major Kirk, who has spent many hours each day, both at the premises and elsewhere, on the task in hand. His self-sacrificing labours have included the selection and installation throughout the building of the major portion of the newly-acquired material, while he has been assiduous in his collaboration with the Secretary in the carrying through of the multitudinous activities involved in the transference of offices.

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PERSONAL

Appointment.—Herefordshire Diseases of Animals Committee have appointed Mr. John Maffey, M.R.C.V.S., of Thundersley, Essex, Assistant County Veterinary Officer.

. . . . .

Marriage.—Ince—Averill. On March 27th, 1937, at Little Western Coney, Stoke-on-Trent, Eric Benson Ince, M.R.C.V.S., younger son of Arthur Godfrey Ince, Esq., F.R.C.S., and Mrs. Ince, Sturry, Kent, to Margaret Mary Eleanor, younger daughter of the late Mr. F. J. Averill and Mrs. Averill, of Caverswall, Stoke-on-Trent.

Dr. A. G. Ince is a cousin of Mr. Henry Gray, M.R.C.V.S., and his son represents the fourth generation of the Ince family to qualify from the Royal Veterinary College, London.

. . . . .

Mr. H. H. Holman's Doctorate.—At the Graduation Ceremony, University of Aberdeen, which took place on March 31st, Mr. Howard Henry Holman, M.R.C.V.S., received the Degree of Doctor of Philosophy, the title of his thesis being "The Pathogenicity of *Brucella abortus*."

The work covered by the thesis was carried out at the Rowett Institute. Mr. Holman was recently appointed to the staff of the Moredun Institute, Animal Diseases Research Association, Edinburgh.

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R.C.V.S. OBITUARY

Powell, William James, Newport Pagnell, Bucks. Graduated Edinburgh, April 27th, 1881. Died April 9th, 1937, aged 79 years.

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NATIONAL HORSE ASSOCIATION OF GREAT BRITAIN

Major H. Faudel-Phillips presided at the annual general meeting of members of the National Horse Association held at 12, Hanover Square, London, W.1, on April 7th, when he moved the adoption of the report of the council and statement of accounts. [A summary of the report was given in our last issue.—*Editor.*]

Major Faudel-Phillips was unanimously elected President of the Association for the second year in succession, the membership during his first year of office having been increased from 829 to 1,130—due very largely to his efforts. The value of the Association's work on behalf of horse breeders, owners and users generally, engenders the belief that in the coming year the membership will be doubled, and no effort will be spared to achieve this.

Many references were made to the Association's decision to publish a quarterly news sheet to keep members informed of the various fields of activity covered by the Association, the value of this publication being stressed.

At a meeting of the council held prior to the annual meeting, a report was received and adopted from the Riding Committee indicating, *inter alia*, that consideration was being given to problems arising from riding on Wimbledon Common, Dartford Common, Richmond Park, Chorley Wood, Amersham, and other places, and that action was being taken to safeguard the interests of riders—particularly in cases where the withdrawal of facilities for riding is threatened. The council adopted a draft of revised conditions governing the Association's Approved Riding School Scheme and this will come into operation forthwith.

The General Purposes Committee reported having given careful consideration to the provisions of the Export of Horses Bill. While it is not desired to oppose the Bill in any way, it is held that its provisions may prevent the export of horses purchased by private owners for hacking purposes. Arrangements were, therefore, being made for a conference with the Ministry of Agriculture and Fisheries with a view to co-operating with the Government to ensure that the Bill is amended in such a way as to render it satisfactory from all points of view.

* * * * *

SCHOLARSHIPS IN AGRICULTURE: POST-GRADUATE STUDY

The Ministry of Agriculture and the Department of Agriculture for Scotland invite applications for agricultural scholarships from students who propose to follow the career of agricultural organiser or instructor or lecturer in agriculture (including horticulture, dairying, and poultry husbandry). The object of the scholarships, of which not more than four will be awarded annually, is to broaden the agricultural knowledge and experience of students, and so to qualify them for the position of agricultural organiser, instructor, or lecturer.

Candidates must be British born, and should be graduates of a university, but exceptional candidates, otherwise qualified, who have not had an opportunity of graduating, will be regarded as eligible. Application may also be made in respect of candidates who have sat for a degree or diploma examination of which the result has not been announced. In addition, candidates should have had some experience of practical farming. The value of the scholarships will not exceed £200 together with an allowance for approved fees and travelling expenses. The period of the scholarships is normally one year.

Candidates must be nominated by a professor, principal or lecturer of a university or college

on the prescribed form, which, together with other particulars, may be obtained, by English and Welsh students, from the Secretary, Ministry of Agriculture and Fisheries, 10, Whitehall Place, London, S.W.1, and, by Scottish students, from the Secretary, Department of Agriculture for Scotland, 29, St. Andrew Square, Edinburgh, 2. The latest date for receiving nominations is June 15th next.

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CULTIVATION OF *HISTOMONAS MELEAGRIDIS* FROM THE LIVER LESIONS OF A HEN

H. P. Bayon and Ann Bishop, of the Molteno Institute, University of Cambridge, contribute the following to *Nature* (Vol. 139, February 27th, 1937):

"Blackhead" (entero-hepatitis), a widespread and generally fatal disease of turkeys, was attributed to a protozoon, *Amoeba meleagridis*, by Theobald Smith.[1] Later, Tyzzer confirmed its presence in caecal lesions and renamed it *Histomonas* (gen. nov.) *meleagridis* Smith.[2] Although there is no difficulty in infecting young chickens experimentally with *H. meleagridis* (Tyzzer[3]) the disease produced is not severe, and the chickens soon recover clinically, though they may remain "carriers," passing Protozoa in their faeces, for long periods. Theobald Smith[4] saw *Amoeba* (= *Histomonas*) *meleagridis* in liver sections from diseased fowls, and Tyzzer[5] found similar lesions in a two-year-old hen. Although Drbohlav[6] and afterwards Tyzzer[7] cultivated *Histomonas meleagridis* from the caecal discharges of experimentally infected chickens, all attempts to cultivate the parasite from diseased tissues from either turkeys or chickens failed (Tyzzer[7]).

Hitherto, the disease had been considered rare in mature fowls, but during the past year it appears to have occurred in several localities in England amongst laying stock, and in chickens on the farm belonging to one of us (H. P. B.). On December 3rd, 1936, we received a Rhode Island Red hen from a farm in Shropshire. Examination revealed focal necrosis of the liver and caecal lesions which were macroscopically and microscopically similar to those occurring in turkeys suffering from "blackhead." Material taken with aseptic precautions from the necrotic areas in the hen's liver was inoculated into a tube containing an inspissated whole-egg slope covered with inactivated horse-serum diluted 1: 8 in Ringer's solution to which a little solid, sterile rice starch had been added. Other similar tubes were inoculated with caecal contents and scrapings. On incubation at 37° C., *Histomonas* appeared within 24 hours in the tube inoculated from the liver lesions. This strain of *Histomonas* from the liver is now in its twelfth subculture and is growing excellently on the above-described medium and on other media. In addition to *Histomonas*, the cultures contain a mixture of bacteria. These may be contaminants introduced when the primary inoculation from the liver was made, or, more probably, bacteria present in the lesion. Although according to Smith[4] bacteria are rare in liver lesions of turkeys killed at the height of the disease, they are not unknown, and they are not rare in smears made from the liver a few hours after death. It is possible that the presence of compatible bacteria has made the cultivation of the parasite possible. Cultures were made from the liver lesions of three turkeys, but these remained sterile bacteriologically and were negative for *Histomonas*.

The above-described strain of *Histomonas* from the hen's liver ingests starch and bacteria, and both flagellate and amoeboid forms occur. It appears similar morphologically to the strains isolated from caecal discharges by Tyzzer.[7]

In the tubes inoculated with caecal content and scrapings from the caecal wall of the hen, *Blastocystis*, *Trichomonas* and *Chilomastix* appeared, but *Histomonas* was never seen; the growth of *Blastocystis*, however, was very heavy.

[1] Smith, T. (1895.) *Bull. U.S. Dep. Agric.* **8**. 7.
[2] Tyzzer, E. E. (1920.) *J. Parasit.* **6**. 124.
[3] Tyzzer, E. E. (1924.) *J. Med. Res.* **44**. 676.
[4] Smith, T. (1915.) *J. Med. Res.* **33**. 243.
[5] Tyzzer, E. E. (1919.) *J. Med. Res.* **40**. 1.
[6] Drbohlav, J. J. (1924.) *J. Med. Res.* **44**. 677.
[7] Tyzzer, E. E. (1934.) *Proc. Amer. Acad. Arts and Sci.* **69**. 191.

Correspondence

Letters to the Editor should reach the Office not later than by the first post on Tuesday morning for insertion in following Saturday's issue.

All correspondence must bear the name and address of the contributor for publication.

The views expressed in letters addressed to the Editor represent the personal view of the writer only and must not be taken as expressing the opinion or having received the approval of the N.V.M.A.

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DEATH FOLLOWING THE ADMINISTRATION OF PARAFFIN (LAMP) OIL

To the Editor of the Veterinary Record

Sir,—With regard to Mr. Shenton's communication in last week's *Veterinary Record re* death following the administration of paraffin oil: while seeing practice, when a student, in Ireland with Mr. G. Hobson, M.R.C.V.S. (late of Waterford), I frequently helped him with the administration of one pint of paraffin oil for heifers and bullocks of nine and twelve months old for the treatment of strongyle infestation. There were never any deaths within my recollection, the only ill-effects of the treatment—even in beasts which were quite emaciated from the worm infestation—being that the animals went off their food for a day or two.

Possibly, of course, in Mr. Shenton's case the magnesium sulphate and the paraffin may not have "agreed"; or the tympany may have had some influence in causing the paraffin to be responsible for the inflammation.

I might add that a little camphor was dissolved in the paraffin to mask the too well known odour of the latter and that the mixture was given by the stomach tube.

I am,
Yours faithfully,
A. S. Harris, M.R.C.V.S.

Essex Hotel,
Parchment Street,
Winchester.
April 10th, 1937.

* * * * *

THE LATE MISS CUST

To the Editor of the Veterinary Record

Sir,—Apropos of the suggestion that the women in the profession should take a considerable share in the arrangements for the proposed memorial to the late Miss Cust, I would like to ask, would it not be a good thing, if it is decided to have any special memorial at all, to have one really worth while collecting for? For example, why not let this memorial be the

sculptural group of "Duncan's Horses" so wonderfully saved from the Crystal Palace burning? Let it be now cast in a suitable medium, and placed on the green before the New London College, at long last in being. In honouring the late Miss Cust so, the members of the R.C.V.S. would be honouring themselves, and not least of all, the sculptor, Adrian Jones, M.R.C.V.S.

Yours sincerely,
HILDA BISSET.

Dargle Road,
Bray.
April 6th, 1937.

* * * * *

PROHIBITION OF THE EXPORTATION OF WORN-OUT HORSES

TO THE EDITOR OF THE VETERINARY RECORD

Sir,—I am sure that we are all very grateful to you for having given so much publicity to Mr. Radford's Exportation of Horses Bill, which passed its second reading in the House of Commons. It is devised to save our work-worn horses and mules from the dreadful fate to which, as we saw on our recent visit to Belgium, some of our old War horses and mules had obviously been condemned. A gallant effort is now being made to save them from further suffering.

As veterinarians it is our duty to make a greater attempt to save our work-worn and incurably lame horses from suffering in this country by inducing owners to have them destroyed, rather than expose them for sale for further work on the land. With all due deference, I submit that a horse is either lame or not lame, and that the terms "dodgy" and "feeling" are but convenient words in place of "lameness." Whether the horse be at work upon the roads or the land the lameness and pain still exist, and it is an act of cruelty to keep horses in such a condition at work. Granted that in many instances the lameness is not so obvious and the pain may not be so acute when the horse is working upon soft ground, but—it is still there. In town and country one sees horses suffering from ringbone, navicular disease, contracted tendons, etc., causing lameness in varying degrees, and I hope no one who professes to be humane will disagree with my contention that one of three courses should be adopted in such cases, *viz.* (1) rest and treatment by a qualified person until recovery has taken place; (2) unnerving; (3) painless destruction.

It is in the power of the Ministry of Agriculture and of county and local authorities to appoint whole-time veterinarians, and I would earnestly submit for their consideration that veterinary officers should be appointed with power to examine any or all animals in their own districts, and that the proper authority should take action in all cases reported to be unfit for work or in an unfit and neglected condition. In the event of an owner disputing the report the case should be submitted to an independent expert.

Half measures were practically useless in eradicating glanders and rabies from our country; the same applies to the unfit horse or any animal, and the sooner we throw our full weight whole-heartedly into this matter and clean up our own house, the less cause will others have to tell us quite openly that we are hypocrites.

In conclusion, sir, permit me to confess that I, too, have been lying dormant over this question, and I know that if our members will only take a keener interest they will at least show appreciation of the fact that the animals have provided us with a living.

Thanking you,
I am, sir,
Faithfully yours,
REG. F. WALL.

Roughdown Rise,
Roughdown,
Boxmoor,
Herts.

Diseases of Animals Acts

SUMMARY OF RETURNS

Period.	Anthrax.		Foot-and-Mouth Disease.		Parasitic§ Mange.		Sheep Scab.	Swine Fever.	
	Outbreaks confirmed.	Animals attacked.	Outbreaks confirmed.	Animals slaughtered as diseased or exposed to infection.	Outbreaks reported by the Local Authorities.	Animals attacked.	Outbreaks confirmed.	Outbreaks confirmed.	Swine slaughtered.
	No.	No.	No.	No.	No.	No.	No.	No.	No.
Period 16th to 31st March, 1937	23	28	—	—	1	1	8	61	24
Corresponding period in									
1936	31	34	—	—	3	8	7	118	127
1935	25	27	—	1	4	12	18	72	23
1934	22	24	1	31	6	13	18	66	33
Total 1st January to 31st March, 1937	178	205	3	262	54	84	96	311	172
Corresponding period in									
1936	153	187	4	379	49	167	120	552	404
1935	121	132	22	4,692	52	78	153	409	159
1934	123	125	1	31	65	112	282	429	242

NOTE.—The figures for the current year are approximate only.

§ Excluding outbreaks in Army Horses.